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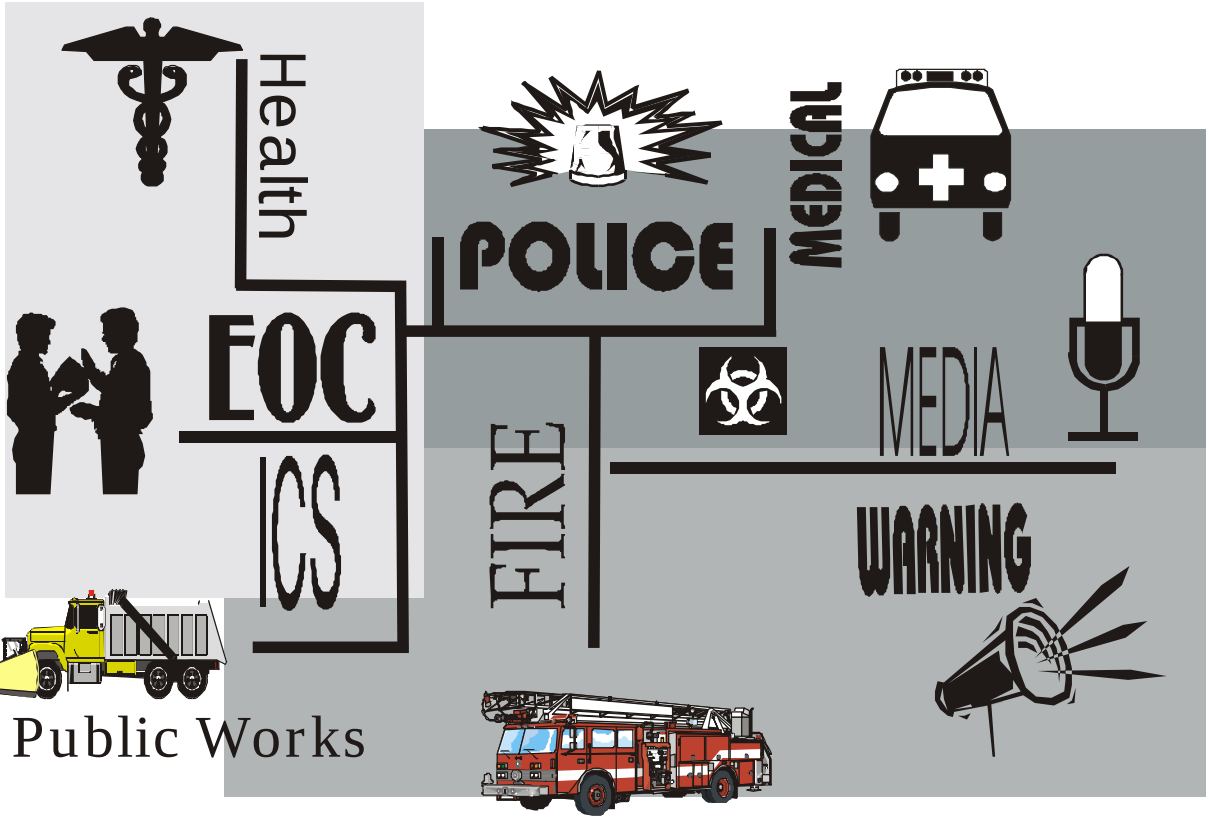
EMERGENCY MANAGEMENT DIVISION
Michigan Department of State Police

Disaster Exercise Manual

Guide for Exercising Emergency Operations Plans



Produced by: Training and Exercise Section
Emergency Management Division
Michigan State Police

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Section 1

Introduction

Emergencies and disasters can strike at anytime, causing death, injury, and economic instability. As communities become larger and more interrelated, numbers and types of potential disasters multiply, and their impact is often compounded by technological, social, and political developments of the modern era.

The obligation to respond to emergencies initially lies with local government. Local resources are normally closest at hand and can be activated almost immediately. Government's capacity at any level to protect its citizens, however, depends directly on the abilities of large numbers of organizations, individuals, and jurisdictions to act effectively in emergency situations.

This is a difficult task, requiring virtually every public agency and many private groups to coordinate their actions in all four phases of emergency management: **mitigation, preparedness, response,** and **recovery**.

While this process presents a challenging management problem for each organization, it becomes even more complex when all emergency management disciplines join together into one integrated system for managing emergencies.

Obviously, the best way to identify your jurisdiction's capabilities is during an actual event. However, it is too late to make necessary adjustments to plans and procedures. By exercising, a community can test, evaluate, and continually improve their emergency management system. Exercises stress performance of both people and organizations, and are a measure of the competence of an emergency management program.

This exercise manual is designed to provide the local emergency management coordinator, managers, professional, or other employees, with information vital to achieving a successful exercise program. This manual provides guidance and instructions, as part of a statewide effort, to increase local capability in time of emergency or disaster. This manual is <u>not</u> a replacement for the "Exercise Design/Evaluation Course," but is a supplement to it. It is recommended that anyone involved with the development of an exercise attend the "Exercise Design/Evaluation Course."

The Purpose of Exercising

The goal of emergency management exercises is to test and enhance the overall capability of a community or organization, based on plans, policies, and procedures. Preparation and practice of those responsibilities for response and recovery from emergencies or disasters will enhance the ability to protect lives, property, and the environment. Exercises identify areas that are proficient and those that need improvement. Communities that develop and maintain viable exercise programs will be better prepared for actual events. Therefore, exercise activities must be flexible and based on the unique needs and capabilities of a community.

Lessons learned from exercises can be used to revise operational plans and provide a basis for training. Through exercise activities you will:

- Reveal planning weaknesses.
- Reveal source gaps.
- Improve coordination.
- Clarify roles and responsibilities.
- Improve individual performance.
- Gain public recognition of the emergency management program.
- Build the confidence of emergency professionals.
- Develop proficiency and confidence in participants.

- Test plans and systems in “live” situations.
- Enhance community capabilities for emergency management.
- Foster cooperation among government agencies and private sector resources.
- Increase general awareness of proficiencies and needs.
- Help formulate public policy on community readiness posture.
- Satisfy specific requirements of certain program areas.
- Demonstrate utilization of the emergency management process.

Exercise Activities

Orientation Exercise (Seminar)

The orientation exercise is considered to be the foundation for emergency management exercises and will lay the groundwork for a comprehensive exercise program. It is a planned event, developed to bring together individuals/officials with a role or interest in plans, problems, standard operational procedures (SOPs), and equipment. It may also introduce a new hazard or problem that needs to be addressed.

An orientation activity should have a specific goal and written objectives.

Orientation Exercise Guidelines

- Be creative–one-on-one questions, panel discussions, brainstorming, or case studies.
- Get organized and plan ahead–arrange for facilities, refreshments, handouts, agendas, send out notifications, etc.
- Greet all the participants, be ready to facilitate the seminar–guide discussion, focus on the subject, and encourage participation.
- Collect data–sign-in sheets and evaluation forms (if a player critique form is used).

Drill

The drill is a planned activity that tests, develops, or maintains skills in a single or limited emergency response procedure. Drills generally involve operational response of single departments or agencies. Normally, these are field activities; however, some could be internal (an alert and notification drill would be internal). The drill focuses on a single or relatively limited component or function (example: communication) of the community’s response system in order to evaluate and improve it.

A drill should have specific goals, objectives, and a scenario narrative.

Drill Guidelines

- Prepare–conduct an orientation exercise prior to the drill (it can be done the same day) to cover the operational plan (progressive exercising), determine a safety plan or procedures, arrange any logistics (facilities, equipment, etc.), and send out notifications. Also determine if any exercise enhancements (maps, communications, audiovisual, etc.) are needed.
- Set the stage–greet all the participants, conduct a player briefing, and begin with a scenario narrative or video (could be a newsbreak video).
- Monitor the action–provide an exercise controller in the field and insert message traffic through available communications.
- Collect data–use sign-in sheets, operational forms, and evaluations (evaluation report forms and player critique forms).

Tabletop Exercise

The tabletop exercise is a planned activity in which local officials, key staff, and organizations with emergency management responsibilities are presented with simulated emergency situations, without time constraints. It is usually informal, in a conference room environment, and is designed to elicit constructive

discussion from the participants. They will examine and attempt to resolve problems, based on existing plans and procedures. The success of the exercise is largely determined by group participation.

Individuals are encouraged to discuss decisions in depth with the emphasis on slow-paced problem solving, rather than rapid, spontaneous decision-making.

A tabletop exercise should have specific goals, objectives, and a scenario narrative.

Tabletop Exercise Guidelines

- Prepare–send out notifications, prepare handouts, arrange logistics, compose an exercise control package (problems/issues, messages, etc.), and determine if any exercise enhancements are needed. If a large tabletop is envisioned, exercise developmental products (an exercise plan, exercise control plan, evaluation plan, and player handbook) may be needed.
- Set the stage–greet all the participants, conduct a player briefing, create an exercise scenario narrative, determine logistical needs and exercise enhancements, etc.
- Monitor the action—the facilitator (exercise controller) should control the flow, guide the discussions, manage the time, and encourage resolution to problems if possible. If a larger than normal participation is expected, additional facilitators may be added to the exercise control group. Problems or issues could then be assigned to groups.
- Collect data–use sign-in sheets, player activity sheets (response to the problems or issues), evaluation reports, and player critiques.

Functional Exercise

A functional exercise is a planned activity designed to enhance individual and organizational skills, required in emergency management. It is also utilized to evaluate the capability of a community's emergency management system by testing the emergency operations plan (EOP), with emphasis on the majority of emergency management functions. It is based on a simulation of a realistic emergency situation that includes a description of the situation (narrative) with communications between players and simulators.

The functional exercise gives the players (the decision-makers) a fully simulated experience of being in a major emergency event. It should take place at the appropriate coordinating location (i.e., emergency operations center, emergency command center, command post, master control center, etc.) and activate all the appropriate members designated by the plan. Both internal and external agencies (government, private industry or businesses, and volunteer agencies) should be involved. It requires players, controllers and simulators, and evaluators. Message traffic will be simulated and inserted by the control team for player responses/actions, under real time constraints.

A functional exercise should have specific goals, objectives, and a scenario narrative.

Functional Exercise Guidelines

- Prepare–send out notifications, EOC or command center room set-up, exercise developmental products, address logistics including additional rooms (simulation, possible joint public information center-JPIC), telephone & radio numbers assigned, identification badges produced, etc.
- Monitor the action–the exercise control team should control the flow of the exercise and message traffic. Participant activity should be a priority with an intense yet realistic simulated exercise. Communication between players and simulators needs to happen. Simulation must represent non-participating agencies or individuals.
- Collect data–use sign in sheets, situation logs of players, evaluation reports, and player critiques.

Full-scale Exercise

A full-scale exercise is the culmination of a progressive exercise program that has grown with the capacity of the community to conduct exercises.

A full-scale exercise is a planned activity in a "challenging" environment that encompasses a majority of the emergency management functions.

The appropriate facility(ies) is/are activated to provide coordination and support. This type of exercise involves the actual mobilization and deployment of the appropriate personnel, and resources needed to demonstrate operational capabilities. EOCs or command centers are required to be activated.

A full-scale exercise should have specific goals, objectives, and a scenario narrative.

Full-scale Exercise Guidelines

- Prepare–notifications must be sent well in advance of this exercise. EOC setup and additional rooms, as in a functional exercise, with the addition of field sites for response operations (example: incident command, search & rescue, family center operations, etc.). This will include all logistics and exercise enhancements, at the EOC and field sites. Exercise developmental products need to be produced, including a safety plan. Security and identification systems will need to be used.
- Monitor the action–as part of the exercise control plan, a team of exercise controllers should be considered. An evaluation team that provides coverage of the EOC and field sites will be included in the evaluation plan. The exercise will be conducted by the control group, including simulation, but with the actual response of field personnel under real time constraints.
- Collect data–use sign in sheets, situation logs of players, evaluation reports, and player critiques.

Comparing the Five Activities

Each of the five activities just described plays an important part in the overall exercise program. The following chart lists some of the reasons for conducting each type of activity. Key characteristics of each type of exercise are shown in the table on the next page.

Reasons to Conduct Exercise Program Activities				
Orientation	**Drill**	**Tabletop Exercise**	**Functional Exercise**	**Full-Scale Exercise**
No Previous Exercise	Assess equipment capabilities.	Practice group problem solving.	Evaluate a function.	Assess and improve information analysis.
No Recent Operations	Test response time.	Promote executive familiarity with emergency management plan.	Observe physical facilities use.	Assess and improve interagency cooperation.
New Plan	Personnel training.	Assess plan coverage for a specific case study.	Reinforce established policies and procedures.	Support policy formulation.
New Procedures	Assess interagency cooperation.	Assess plan coverage for a specific risk area.	Assess hospital preparedness.	Assess negotiation procedures.
New Staff, Leadership	Verify resource and staffing capabilities.	Examine staffing contingencies.	Test seldom-used resources.	Test resource and personnel allocation.
New Nuclear Facility		Test group message interpretation.	Measure resource adequacy.	Direct media attention.
New Industrial Risk		Assess interagency or interdepartmental coordination.	Assess and strengthen inter-jurisdictional or inter-organizational relations.	Assess and strengthen inter-jurisdictional or inter-organizational relations.
		Observe information sharing.		Assess personnel and equipment locations.
		Train personnel in negotiation.		Test equipment capabilities.

Comparing the Five Activities (Continued)

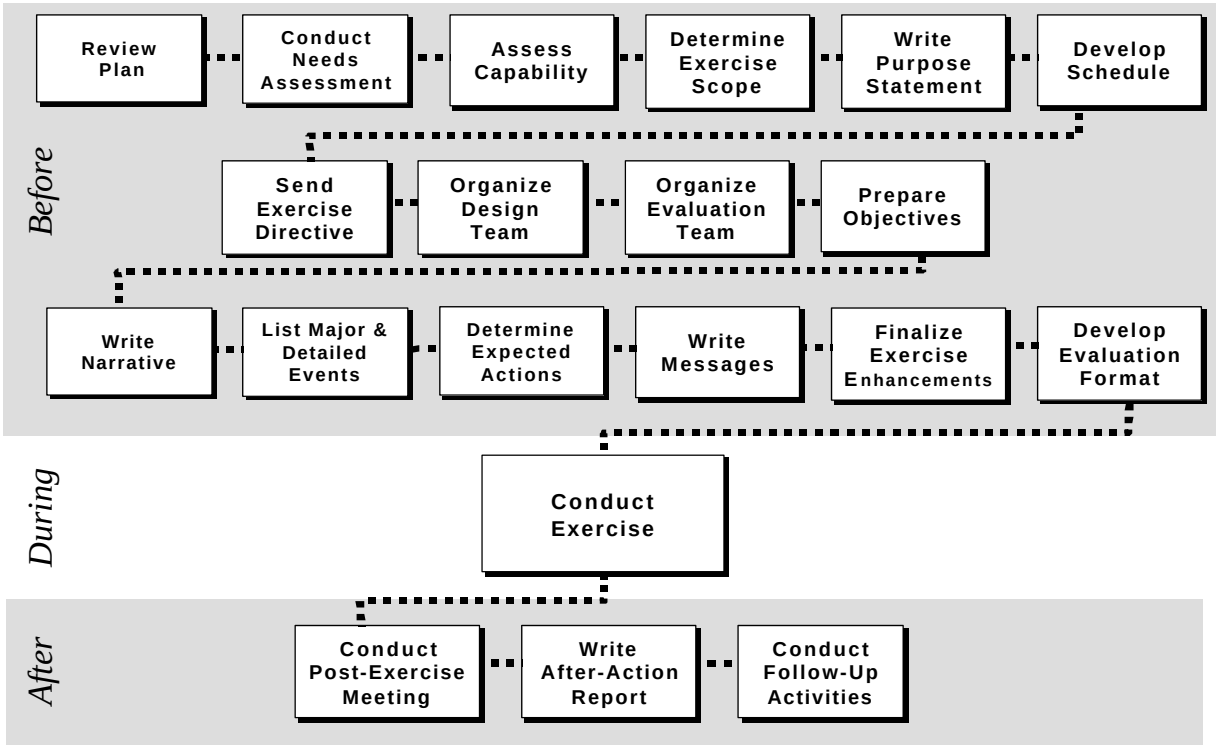
The following table briefly compares the key characteristics of the five types of exercise program activities.

Comparison of Key Activity Characteristics					
	Orientation	**Drill**	**Tabletop Exercise**	**Functional Exercise**	**Full-Scale Exercise**
Format	Informal discussion in group setting, various presentation methods.	Actual field or facility response, actual equipment.	Narrative presentation, problem statements or simulated messages, group discussion, no time pressures.	Interactive, complex, players respond to messages (events/problems) provided by simulators, realistic but no actual equipment, conducted in real time; stressful.	Realistic event announcement, personnel gather at assigned site, visual narrative (enactment), actions at scene serve as input to EOC simulation.
Leaders	Facilitator	Manager, supervisor, department head, or designer.	Facilitator	Controller	Controller(s)
Participants	Single agency/ department, or cross-functional.	Personnel for the function being tested, may include coordination, operations, response personnel.	Anyone with a policy, planning, or response role for the type of situation used.	Players (policy, coordination, and operations personnel), simulators, evaluators.	All levels of personnel (policy, coordination, operations, field), evaluators.
Facilities	Conference room.	Facility, field, or EOC.	Large conference room.	EOC or other operating center (multiple rooms).	Realistic setting/EOC or other operating center.
Time	1–2 hours.	½–2 hours.	1–4 hours or longer.	3–8 hours or longer.	2 hours to 1 or more days.
Preparation	Simple preparation, 2 weeks.	Easy to design, 1 month. Participants need orientation.	1 month preparation. Preceded by orientation and 1 or more drills.	Complex, 6–18 months preparation. Preceded by simpler exercises. Significant allocation of resources.	Extensive time, effort, resources. 1–1½ years development, including preparatory drills, tabletops, functional exercises.

Exercise Development Process

In preparation of providing a meaningful and realistic exercise activity for participants, planning is an important element of the responsibility of the local emergency coordinator or professional. It is therefore necessary to complete the main tasks that will be addressed in the developmental process.

This first chart shows the tasks in a sequence order from beginning to end:



Exercise Phases

The tasks are separated into three specific exercise phases with design and the evaluation tasks:

- **Before** the exercise.
- **During** the exercise.
- **After** the exercise.

<u>Categories of Tasks</u>
Another way to look at the exercise process is by organizing the tasks into two dimensions:

- Exercise phase (pre-exercise, exercise, and post-exercise).
- Type of task (those related to design and those related to evaluation).

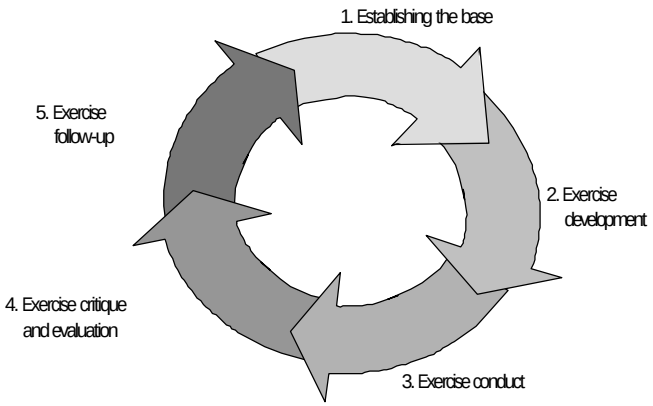
The following matrix illustrates this type of organization:

Task Categories			
	Pre-Exercise Phase	**Exercise Phase**	**Post-Exercise Phase**
Design	▪ Review plan. ▪ Assess capability. ▪ Address costs and liabilities. ▪ Gain support/issue exercise directive. ▪ Organize design team. ▪ Draw up a schedule. ▪ Design exercise (8 design steps).	▪ Prepare facility. ▪ Assemble props and other enhancements. ▪ Brief participants. ▪ Conduct exercise.	
Evaluation	▪ Select evaluation team leader. ▪ Develop evaluation methodology. ▪ Select and organize evaluation team. ▪ Train evaluators.	▪ Observe assigned objectives. ▪ Document actions.	▪ Assess achievement of objectives. ▪ Participate in post-exercise meetings. ▪ Prepare evaluation report. ▪ Participate in follow-up activities.

Major Task Accomplishments

One of the simplest ways to envision the exercise process is by major accomplishments. As shown in the graphic below, the process can be factored into five major accomplishments that make up the design cycle:

1. Establishing the base.
2. Exercise development.
3. Exercise conduct.
4. Exercise critique and evaluation.
5. Exercise follow-up.



Each accomplishment is an outgrowth of a set of specific tasks and subtasks (similar to those listed in the earlier models). The process is circular, with the results of one exercise providing input for the next.

Note: The exercise process applies to all exercise activities, regardless of organizational capability. It is versatile and flexible to meet the needs of the organization, with the exercise objectives.

1. Establishing the Base

Laying the groundwork for the exercise (this could be the tasks of the initial planning conferences (IPCs) or exercise development meetings) by:

- Reviewing the current plan.
- Conducting a needs assessment.
- Assessing the jurisdiction's or organization's capability to conduct an exercise.
- Defining the exercise scope.
- Selecting the appropriate exercise activity.
- Addressing costs and liabilities.
- Developing a statement of purpose.
- Gaining support for the exercise.
- Announcing the exercise.
- Organizing a design team.
- Creating an exercise work plan.

2. Exercise Development

Exercise activities, drills, tabletop, functional and full-scale, are developed using the 8-step process:

- Assess the needs.
- Define the scope.
- Write a statement of purpose.
- Define the specific functional objectives.
- Compose a scenario narrative.
- Create major and minor events.
- List the expected actions.
- Create messages for players.

3. Exercise Conduct

A well-coordinated management of the exercise activity will provide a worthwhile experience for participants.

- Be clear with participants on the expectations and exercise rules.
- Explain player and simulation roles.
- Sustain the action with exercise control.
- Simulate realistic happenings.
- Establish and follow exercise timelines.
- Review emergency call-off procedures.
- Monitor the exercise play for meeting the objectives.

4. Exercise Evaluation and Critique

Just as important as designing the exercise, evaluating the results will determine if the objectives were met.

- Are there improvements needed in plans, policies, and procedures?
- Does the emergency management system work as planned?
- Is there training that needs to be addressed?
- Are there needs for personnel or equipment?

5. Exercise Follow-up

Upon learning of exercise deficiencies, recommendations for improvement may be made, and will require an action plan and follow-up to address them.

- Gather the information from the evaluations.
- Analyze the recommendations.
- Prepare an action plan and assign responsibility for them.
- Monitor the progress.
- Prepare for the next exercise with improved plans, etc.

Gaining Support

Announce the exercise. Broad support for the exercise may be gained in some instances by sending out an announcement. A written directive, signed by the CEO, will allow notification to all agencies of the pertinent information and provide support and direction.

The announcement—often in the form of an exercise directive—should come from the chief executive. The directive serves the purpose of authorizing you to conduct the exercise and giving you the clout you need to gain support from others.

The exercise directive will closely resemble the purpose statement. The directive should contain the:

- Purpose.
- List of participating agencies, organizations, or departments.
- Personnel responsible for designing the exercise.
- Exercise date (or approximate dates).
- Point of contact for additional information.

Notice that the nature of the emergency and the location of the exercise are <u>not</u> revealed.

Regarding dates: totally unannounced exercises are not recommended. However, whether you specify the exact date will depend on the degree of surprise you intend. At a minimum, a range of dates should be given. In selecting the exercise date, check the community calendar to avoid conflicting with a major event (e.g., an athletic event).

An example of an exercise directive is given on the next page. Although this example illustrates an emergency management office announcement, a similar approach would be appropriate for an organization in the nonprofit or private sector.

Sample Exercise Directive

February 24, 20XX

TO: All Agency Directors
FROM: CHARLENE W. WILLIAMS
Chief Administrative Officer
SUBJECT: Emergency Exercise

A simulated emergency exercise involving a terrorist incident has been scheduled for sometime during the week of May 12–18, 20xx.

The purpose of the proposed exercise is to improve the following emergency operations:

1. Rapid assessment.
2. Notification and alert.
3. Scene isolation and perimeter control.
4. Mass casualty triage.

It is important that your agency participate in this exercise. We encourage involvement at the highest level.

I believe we all realize the importance of emergency exercises as a means to community preparedness. I fully support this exercise and intend to join with you in participating.

The Emergency Management Office will be coordinating the exercise. They will be contacting you to make necessary arrangements for the development and conduct of the exercise. For purposes of realism and interest, details of the exercise situation will not be made known prior to the exercise.

For further information, call Tom Smith at EXT 1234.

Organizing a Design Team

Orientation exercises are normally planned, conducted, and evaluated by local emergency management coordinators. However, for tabletop, functional, and full-scale exercise activities, a design team formation is strongly encouraged. Especially in functional and full-scale exercises, the emergency management coordinator should be a player, no different than a department head.

Unfortunately, circumstances prevent some emergency management coordinators the freedom to totally be absolved from the process.

When possible, a design team leader could be selected to "manage" the exercise by assuming the administrative and logistical issues needed. Therefore:

- Does the design team leader have the experience and capability to conduct your exercise?
- Do they have time to devote to the complete process?
- Are they familiar with the EOP and your emergency management system?
- Are you selecting them from inside or outside your organization?
- Will they be selecting the design team with your assistance?
- Are you using specific representatives of the involved agencies to assist in the design of the exercise?
- Will they have the administrative and technical support for the exercise?

Strategies for the Design Team:

- Establish clear goals.
- Agree on a plan of action.
- Reach consensus on an exercise schedule.
- Meet regularly to complete tasks.
- Work together and share expertise.
- Learn more about other organizations from team members.
- Keep open lines of communication and share information.
- Utilize job aids to assist with the tasks.

Exercise Tools

Four major documents should be developed during the exercise process, especially with large exercises, including tabletops, functional, and full-scale exercises. These documents are basically handbooks for specific audiences; they serve as tools during exercise development, conduct, and evaluation. They also provide guidance for specific exercise staff and players, when they attend pre-exercise briefings (example: controller and simulation briefing, evaluator briefing, and player briefings). The exercise tools are:

- Exercise plan.
- Exercise control plan.
- Evaluation plan.
- Player handbook.

Exercise Plan

The exercise plan contains information that will be useful prior to the exercise. It may be used as an overview document, that can be presented to agencies, administration, or those private industry partners, who may desire to be involved in an exercise activity. This document would provide the following:

- Purpose of the exercise.
- General objectives.
- Overall exercise strategy.
- Management structure.
- Agencies, etc., involved.
- Safety and security (in general terms).
- Exercise type and basic information (which may be derived from the purpose statement or exercise directive).
- Basic administrative and/or logistical support.
- Exercise references.

Exercise Control Plan

The exercise control plan is for the exercise control group (controllers, simulators, and evaluators). **It is not available for players**. It provides information about:

- Purpose of the handbook.
- General objectives.
- Concept of play (exercise scope, scenario narrative, location of players).
- Specific functional objectives.
- Procedures, responsibilities, assignments, and support.
- Control management & structure.

- Exercise timelines (including pre- and post-exercise activities).
- Emergency call-off procedures, safety & security (could be part of an overall safety plan).
- Artificialities, assumptions, and simulations.
- Exercise control team training.
- Master scenario of events list (MSEL) for the exercise.
- Controller and simulator forms, logs, etc.
- Communications capabilities, structure, and procedures.
- Checklists or any other job aids needed (including maps, references, etc.).

Evaluation Plan

The evaluation plan is for the exercise control group. It is primarily for the evaluation team (evaluation team director or leader(s) and evaluators). This document describes the:

- Purpose of the handbook.
- General objectives.
- Concept of play (scope, scenario narrative, location of players).
- Specific functional objectives.
- Timelines (including pre- and post-exercise activities).
- Emergency call off procedures, etc.
- Artificialities, assumptions, and simulations.
- Evaluation management & structure.
- Evaluation team training.
- Evaluation team responsibilities and procedures.
- Evaluation reporting and documentation.
- Administrative and logistical support.
- Communications procedures and support.

Player Handbook

The player handbook is prepared for the players participating in emergency operations centers (EOCs) or command centers, where decision-makers can respond/react to exercise simulation and/or actual exercise field operations. The document may be used for all exercise activities, but it is primarily for large tabletop, functional, or full-scale exercises. It provides players with information needed to participate effectively in the exercise. It is used by the exercise controller to guide the player briefing activity that precedes exercise play. It should contain:

- Purpose of the handbook.
- General objectives.
- Concept of play in general terms.
- EOC positions.
- General exercise expectations.
- Exercise rules.
- Artificialities, assumptions, and simulation (in general terms).
- May or may not have scenario narrative information.
- Player procedures and responsibilities.
- Safety and security issues (including identification, sign in and out, “this is an exercise” message, etc.).
- Communications procedures.
- Reporting and player documentation.
- Administrative and logistical support.
- Job aid examples (message forms, situation or event logs, message logs, references, maps, etc.).

A Collection of Job Aids

Job aids are ways of organizing and tracking time and tasks so they are completed on time. These normally involve checklists and time schedules. Depending on the type of exercise activity, the following checklists may assist you in keeping track, for a successful exercise:

Checklist. A simple "to-do list" similar to the following can be used provide an overview of the process and ensure that all main tasks are completed.

Sample Exercise Development Checklist

Mission
- ☐ Needs assessment
- ☐ Scope
- ☐ Statement of purpose
- ☐ Objectives

Personnel
- ☐ Design team
- ☐ Controller or facilitator
- ☐ Players
- ☐ Simulators
- ☐ Evaluators
- ☐ Management
- ☐ Safety
- ☐ Observers

Information
- ☐ Directives
- ☐ Media
- ☐ Public announcements
- ☐ Invitations
- ☐ Community support
- ☐ Management support
- ☐ Timeline requirements

Training/Briefings
- ☐ Simulators/evaluators/controllers
- ☐ Player's pre-exercise briefing

Scenario
- ☐ Narrative
- ☐ Major/detailed events
- ☐ Expected actions
- ☐ Messages

Logistics
- ☐ Safety
- ☐ Scheduling
- ☐ Rooms/location
- ☐ Equipment

☐ Communications
- ☐ Phones
- ☐ Radio
- ☐ Computers

☐ Enhancements
- ☐ Maps
- ☐ Charts
- ☐ Other:

Evaluation
- ☐ Methodology
- ☐ Locations
- ☐ Evaluation forms
- ☐ Post-exercise debriefing

After Action Documentation/ Recommendations
- ☐ Evaluation report
- ☐ Evaluation meeting

Activities Schedule. For relatively simple exercises, a basic schedule may be used to show major activities of the team and team leader, and completion deadlines for each. An example is shown below. Deadlines should be realistic, based on team resources.

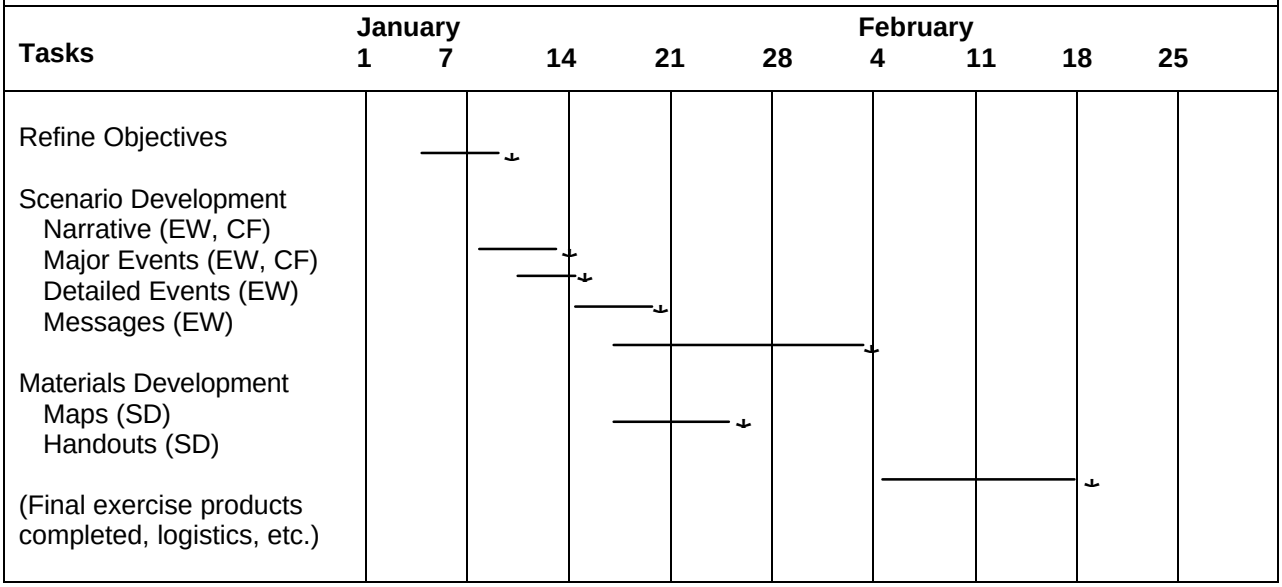
Sample Activities Schedule		
Deadline for Completion	**Leader Activities**	**Team Activities**
3 months prior:	▪ Hold initial planning meeting.	
2-1/2 months prior:	▪ Brief government officials. ▪ Arrange for facilities. ▪ Determine simulation structure. ▪ Convene and brief design team.	▪ Attend team briefing.
2 months prior:	▪ Review and finalize scenario.	▪ Develop/review exercise procedures. ▪ Arrange simulation. ▪ Arrange participation. ▪ Review exercise scenario.
1-1/2 months prior:	▪ Obtain exercise materials. ▪ Prepare ideas for scripted messages.	▪ Prepare participant information packet. ▪ Prepare operational data.
1 month prior:	▪ Review messages with team.	▪ Review messages with leader. ▪ Review evaluation forms. ▪ Print forms. ▪ Prepare scripted messages.
3 weeks prior:	▪ Prepare briefing for participants.	
2 weeks prior:		▪ Integrate messages into time schedule. ▪ Develop training sessions.
1 week prior:	▪ Prepare exercise facility.	
2–4 days prior:	▪ Conduct training session. ▪ Train supervisors.	▪ Assist in training sessions.
Day of Exercise:	▪ Conduct participant briefing. ▪ Perform pre-exercise check. ▪ Supervise the exercise.	▪ Assist with pre-exercise check.
1 week after:	▪ Help prepare draft of final report.	▪ Review final report and make suggestions.
2 weeks after:	▪ Revise and submit report.	
3 weeks after:	▪ Submit recommendations.	

A more detailed plan is needed for a major exercise, which must be planned with the thoroughness of any major organizational effort. A Gantt chart, as shown in the example below, is a useful scheduling tool for such detailed planning.

A Gantt chart displays time across the top and a sequence of tasks down the left side. Time can be given in days, weeks, or months. The duration of time devoted to each activity is represented by bars extending across the time lines.

The example shows task groupings (with supporting sub-tasks scheduled) and staff allocations indicated by initials in the left column.

Sample Gantt Chart



Requirements for an Exercise Activity

Participants (Players)

The emergency operations plan (EOP) should determine who should participates in an exercise. Normally, the participants would be selected from personnel (not alternates) and decision-makers that are responsible for conducting emergency/disaster operations for the community. The inclusion of alternates is sometimes necessary and understandable. The type of exercise activity and the resources and personnel available will provide guidelines for additional staffing and support. Basically, with a large exercise activity, the commitment of resources is more urgently needed. In general, however, this commitment by a community to conduct the exercise should include assurance from the appropriate staff members and department heads to participate in the actual exercise play.

The following list includes departments and agencies that could be included in exercises:

Attorney's Office
Community Affairs
Crisis Intervention
Department of Highways
Management and Finance
Electric (Power)
Emergency Management
Fire/Rescue
Local Health Department
Hospital
Mass Transportation
Public Information
Public Works
Red Cross
Sheriff's Department
State Police
Volunteer Bureau
Building Department/Planning Department
Chief Executives' Office
Environmental Protection
Human Services
Personnel
Emergency Dispatch (911, etc.)
Emergency Medical Services
Gas Company
Police Department
Public Schools
RACES
Railroad
Shelter Manager
Telephone Company
Water Company

Controllers, Simulators, and Evaluators

Controllers

The controller's role is to supervise the simulation or overall conduct of the exercise, to make certain that the exercise proceeds as planned and objectives are achieved. The controller monitors the sequence of events and supervises the input of messages.

Simulators

Simulators "act as," and on behalf of, the agencies and services that would normally interact with the players in the EOC. The method of interaction is normally pre-scripted messages and/or spontaneous responses.

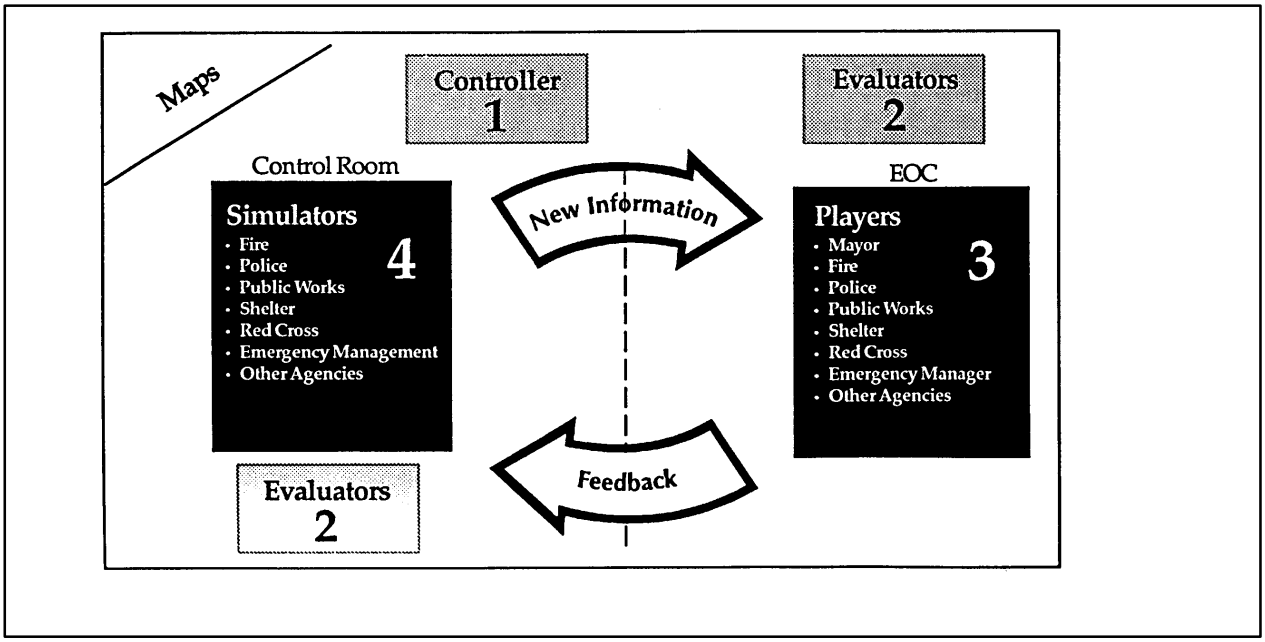
Evaluators

The evaluator's role is to observe the actions and decisions of the players, in order to later report what went well and what did not. His/her main focus is the performance of the functions and/or agencies being tested, against the objectives of the exercise.

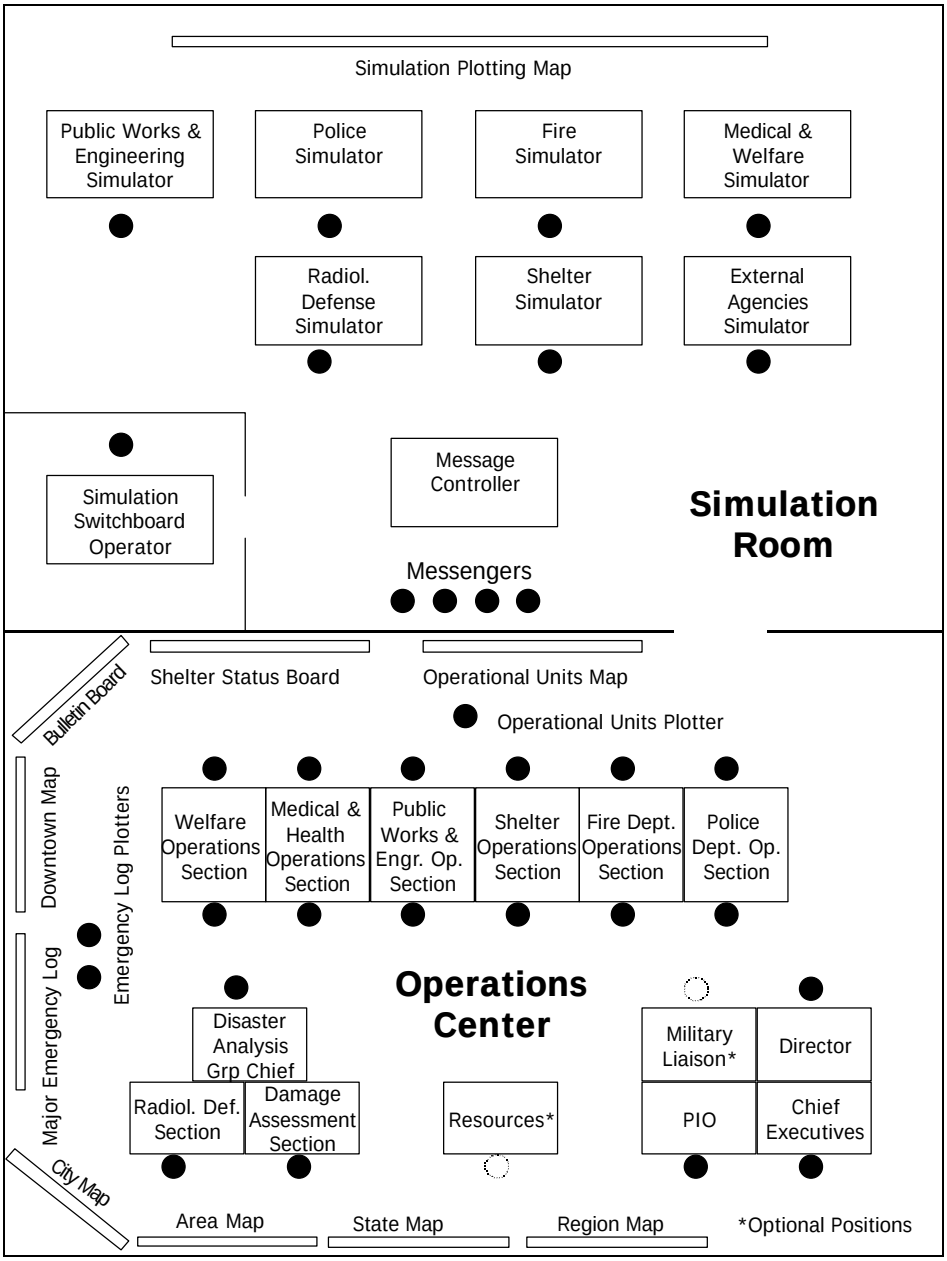
Depending on the type of exercise activity to be presented, the scenario of the exercise, and the resources available to conduct the exercise (personnel, equipment, funding, etc.), the following chart may be helpful in planning:

Staff In Different Exercises

Exercise	Controller	Simulator	Evaluator
Orientation Seminar	One person= emergency manager.	None; done through written materials.	Emergency manager or facilitator or participants Themselves.
Drill	Emergency manager and agency director.	One at field or EOC location.	One at field or EOC location.
Tabletop Exercise	Emergency manager.	None; done with written scenario, messages or problems.	One evaluator for every 2-3 agencies represented; participants themselves.
Functional Exercise	Master controller, simulation controller, message controller.	One for every 2-3 agencies.	Evaluation team including one evaluator for every 2-3 agencies represented, participants themselves.
Full-Scale Exercise	Master controller, simulation controller, message controller, field site controllers.	Simulation team, one for every 2-3 agencies.	Evaluation team including one evaluator for every 2-3 agencies represented, field evaluators at sites, and participants themselves.



Sample Arrangement for a Complex Functional Exercise



Physical Requirements for Exercises

The physical facilities for different types of exercises will vary greatly, therefore it is prudent to look at what is needed for exercises. The chart below may provide items for consideration.

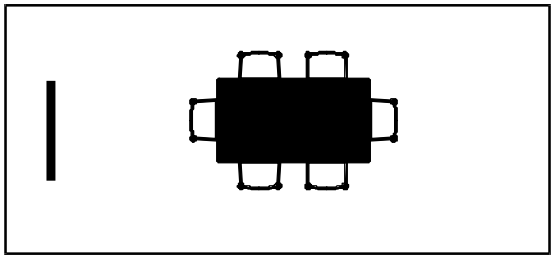
Physical Requirements For Exercise					
	Orientation	Drill	Tabletop	Functional	Full-Scale
Player's Location					
( ) Clear work surface	X	X	X	X	X
( ) Sufficient work space	X	X	X	X	X
( ) Visual access to necessary displays	X	X	X	X	X
( ) Pencil, paper	X	X	X	X	X
( ) Parking	X	X	X	X	X
( ) Refreshments/food	X	X	X	X	X
( ) Restrooms	X	X	X	X	X
( ) Name cards	X	X	X	X	X
( ) Easel, flip chart	X	X	X	X	X
( ) Observer space	X	X	X	X	X
( ) Ventilation	X	X	X	X	X
Support Facilities					
( ) Simulation Room		X		X	X
( ) Message Center		X		X	X
( ) Control Center		X		X	X
( ) Communication equipment		X		X	X

The best guide as to the location of your exercise activity is where you intend to operate your emergency from. Remember that the intent is to simulate "reality." The responses of players is planned to be as similar as possible to those that would occur in a real event. Therefore, wherever that site (mayor's office, county building, public works department, etc.) is, exercise there.

The following are examples of design setup for different exercise types:

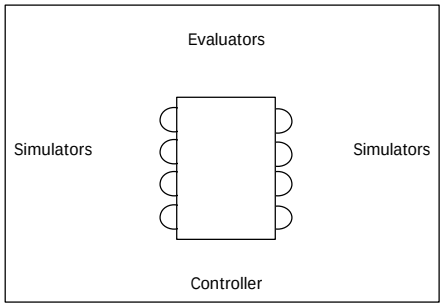
<u>Orientation</u>

An orientation exercise activity can be presented in any room that will accommodate the targeted group. Normally, players surround a conference room table or the presenter will address the group in an informal classroom setup, but not necessarily in the EOC.



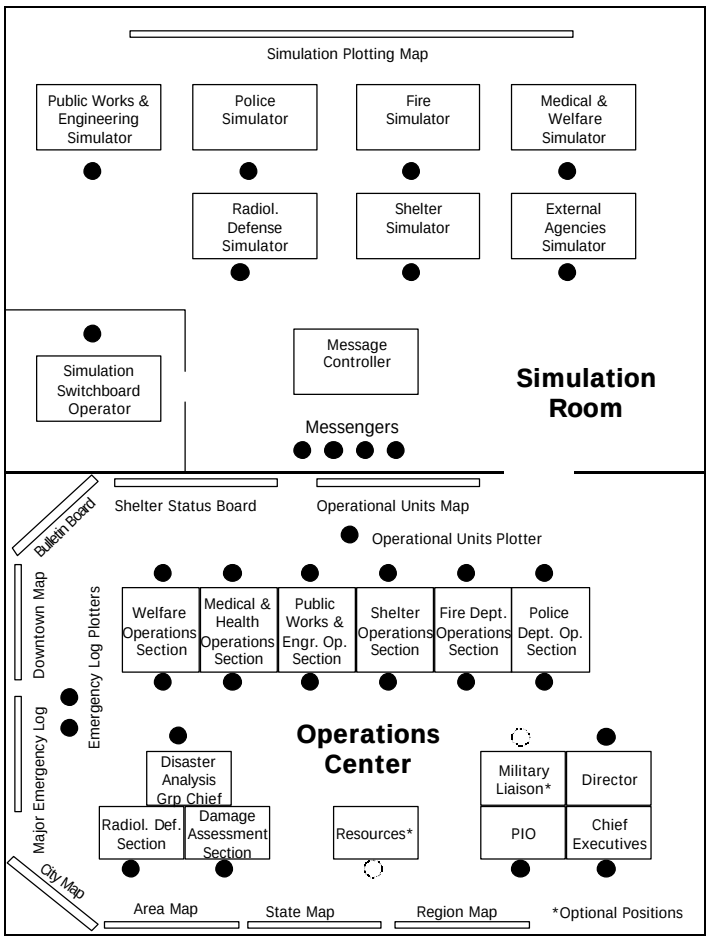
Tabletop

A tabletop exercise can also be accomplished in a conference room setting. This will primarily be a functional group or groups (department or agency personnel).



Functional or Full-scale

For a functional or full-scale exercise the EOC should be used for the maximum effect, under time constraints, in which the players are tested under simulated emergency conditions. The following diagram is an example of an EOC and a simulation room.



The Eight Steps of Exercise Design

Needs Assessment

Designing an exercise should include taking an inventory of the needs, which establishes the reasons to do an exercise, defines problems, and identifies the functions to be exercised. Evaluation of any past events or exercises should be primary sources of information. Also, the following areas should be reviewed:

The base document for all emergency management exercises is the current emergency operations plan (EOP). A review of responses planned, resources, personnel, and procedures identified should be completed. The following is an example of a needs assessment:

a. Hazards—list by priority any problems in the past, and which ones need to be exercised.
b. Geographic area—look for vulnerable areas of the community to hazards.
c. Emergency functions—determine what function needs to be exercised.

____ Alert Notification	____ Individual and Family Assistance
____ Communications	____ Public Safety
____ Coordination and Control	____ Public Works
____ Emergency Public Information	____ Resource Management
____ Damage Assessment	____ Warning
____ Health and Medical	
____ Other	

d. Agencies and personnel—determine who would be involved and who needs the training. Have policies or staff changed?

____ Police	____ Hospital & Local Health
____ Fire	____ EMS
____ Sheriff	____ Business and Industry
____ Public Works	____ School District
____ Airport	____ Surrounding Jurisdictions
____ State Emergency Mgmt	____ Volunteer Organizations
____ Red Cross	____ Others

e. Exercise type—determine which exercise to conduct. At what level is the exercise experience? How much time can be allocated for development? Is a certain type required to fulfill compliance?

____ Orientation	____ Tabletop
____ Drill	____ Functional
	____ Full-scale

Scope

Defining the scope means to put realistic limits on the areas addressed in the needs assessment. Not all hazards can be tested, not all exercise types used, not all resources will be available. The scope should be clear and defined. The following five categories below make up the scope:

a. Hazards—normally, one main hazard is identified in the scenario of the exercise, even though others may develop.
b. Geographic area—a more defined location of the event, an address, or specific site.
c. Functions—what emergency management functions will be tested, based on need?
d. Agencies and personnel—what agencies and at what staffing levels?
e. Exercise type—depending on the realistic level of play that is obtainable or what exercise may be mandated.

Statement of Purpose

A statement of purpose is developed to provide a broad statement about an upcoming exercise activity. Using this statement, a local emergency management program can communicate the plan to exercise, the purpose of the exercise, and relaying the exercise scope to government leaders, community, and the media. The following are two examples:

Sample Purpose Statement 1

The purpose of the proposed emergency management exercise is to improve the following emergency operations:

a. Flood stage monitoring
b. Evacuation warning
c. Relocation of school children
d. *Shelter management*

by involving the following agencies and personnel:

a. Emergency Management
b. Fire Department
c. Public Works
d. Health Department
e. Red Cross
f. Public Schools

in a *functional* exercise simulating a

flash flood

at Planter's Street Bridge to Route I-740 on April 2.

Sample Purpose Statement 2

The purpose of the proposed emergency management exercise is to coordinate the activities of city and county government in their response to a major incident; to provide training to staff; to test and evaluate the Alert and Warning, Evacuation and Shelter/Mass Care Annexes; and to enhance interagency coordination and cooperation by involving the following department or agency heads:

1. County Commissioner or Chief Administrative Officer	Justice County
2. Mayor	City of Liberty
3. Emergency Manager	City of Liberty
4. Emergency Manager	Justice County
5. Fire Chief	Justice County Fire Chief
6. Law Enforcement	Justice County Sheriff
7. PIO	Liberty City Gazette Rep.
8. Hazmat Team Liaison	Justice County Team #3
9. Chemical Expert	Arrow Chemical Company
10. Poison Control Center	Dr. Smith
11. American Red Cross	Disaster Director
12. Liberty City Hospital	Emergency Room Director

These will be tested in a simulated exercise on July 15th involving a hazardous materials transportation accident at SW Mail Road near SW Johnson Boulevard, approximately 300 yards from the Liberty City Hospital.

From this purpose statement, an exercise directive can be constructed (see Gaining Support, page 12). This will provide official support for the exercise by creating a letter or memo and having the chief elected official endorse the document. It usually will contain the contact person with a phone number, hours of the exercise, and the location of the activity. This becomes part of the permanent record of the exercise activity.

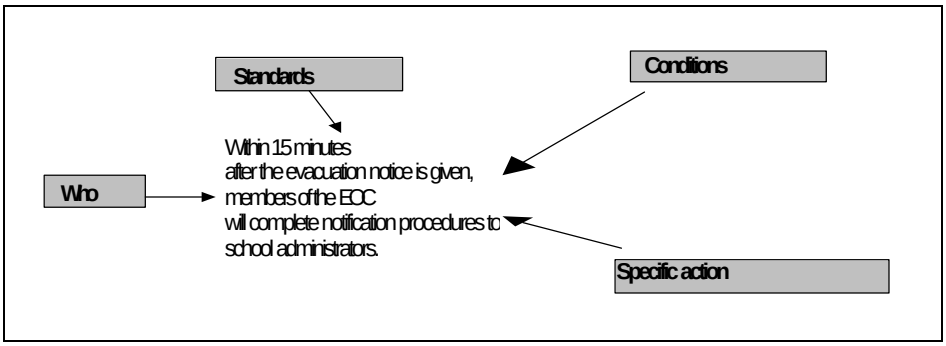
Objectives

Objectives can be classified into “general objectives” or “functional or specific” objectives. General objectives would be used to provide a general overall exercise objective of the community, agency or organization. (Example: The community of “X” will respond and recover from a WMD/CBRNE event.)

Functional or specific objectives are the focal point of any exercise activity. They represent a further defining of the purpose statement, for the exercise, by describing the expected outcomes (performance) of the emergency management functions being tested, to a competent level. After all, the emergency management system of any community needs to be tested and evaluated.

The objectives for any exercise activity should provide a statement of the following:

a. Who is to perform the action? (Example: public information officer.)
b. What are they to do? (Example: distribute a press release to local media.)
c. Under what conditions? (During the first phase of the evacuation.)
d. According to what standard? (Example: within 15 minutes of the decision to evacuate the area.)



Objectives should be developed that are clear, concise, specific, and performance based. All should be attainable. The primary interest is to have success, not failure.

The amount of objectives needed for an exercise activity will vary. An orientation exercise activity may only need two or three objectives, where a full-scale exercise may require several for each function involved in the exercise.

Good Examples of Objectives

1. At the time the evacuation notice is received, the EOC policy and coordination groups will examine the needs of schools and other special facilities, and organize notification according to standard operating procedures.
2. For the EOC to identify and activate an alternate communication system within 30 minutes of the primary communication failure, as described in the emergency plan.

Bad Examples of Objectives

1. To test the volunteer organizations.
2. To get agencies to improve their disaster operations.

Scenario Narrative

As part of the exercise scenario, the narrative describes the events leading up to the time the exercise begins. It sets the scene for later events and also captures the attention of the participants. The narrative is normally one to five paragraphs long, with short sentences and specific information. It could include answers to the following questions:

- What event?
- How fast, strong, deep, or dangerous?
- How was the information relayed?
- What response has been made?
- What damages have been reported?
- What is the sequence of events?
- What time did it happen?
- Was there any advanced warning?
- Where does the event take place?
- What are the weather conditions?
- What other factors would influence emergency procedures?
- What is predicted for the future?

The scenario narrative can be presented to the players by reading it aloud, giving it in written form, or by pre-scripting a news type video or radio news broadcast. The following is an example narrative:

Sample Scenario Narrative: Air Crash

A Boeing 747 en route from Panama to San Francisco is experiencing in-flight engine problems and will have to make an emergency landing. Plans have been made to land at a large airport 200 miles north. However, the latest communications with the pilot indicates that the plane has lost engine power and is losing altitude too quickly to reach the large airport. They will attempt to land at your airport.

Conditions at the airport are clear and the surrounding area is dry. Winds are from the north, steady, at 10 m.p.h.

The main runway lies along a relatively unpopulated suburban area. However, the likelihood of the pilot landing the plane in that area is slim. The approach will pass over populated housing developments.

Airport control tower has alerted their own Crash/Fire Rescue units and is requesting local emergency services to provide backup assistance in fire, medical, police, search and rescue, and welfare.

It is now 9 a.m. (The exercise begins.)

Major and Detailed Events

These events will take place after (and as a result of) the disaster described in the narrative. Major events are problems that are likely to occur based on past events, in case studies of real events. Normally, there will be several of these directly related in sequence to the narrative. They will require certain emergency functions to be addressed and drive player actions. As an example, based on the above narrative:

- Fuselage breaks apart as it hits buildings on approach.
- Debris and fuel ignite several fires to homes.
- About 60 survivors are thought to be trapped in the front section of the plane.
- Several bystanders on the ground are injured.
- A crowd convenes around the crash site.
- Family members of victims begin to gather at the crash site.
- Estimates of fatalities are 200-300.

The first event should trigger the damage assessment function, while the second calls for action from the fire department. The third and fourth events trigger fire, search and rescue, and EMS. The fifth and sixth events deal with scene security, and the last event deals with mass fatality response.

Detailed or minor events are smaller problems of each major event that will still require action to be taken. They are designed to prompt expected actions. As an example:

Major Event

About 60 survivors trapped in the front section of the plane.

Detailed Events

Rescuers find survivors entangled in the wreckage.
Many of the trapped victims are found severely injured.
Passengers and/or onlookers get in the way of rescue efforts.

Expected Actions

These are the desired actions or decisions the players need to make. Given a major or detailed event, it is anticipated that the players would perform actions that follow the emergency operation plan, including SOPs and procedures.

Expected actions should:

- Verify (information gathering).
- Consider (discuss, negotiate, consult).
- Defer (put action on priority list).
- Decision (deploy or deny sources).

Example: Objective and Expected Actions

Function Coordination and communication among the airport and the jurisdiction's emergency systems.

Objective Upon notification that a crash is imminent, response units will stage within 3 minutes, according to SOPs.

Event Landing of disabled aircraft is imminent.

Expected Actions

Airport Control Tower:

- Notify police, fire, medical personnel to proceed to airport.
- Alert hospitals of potential mass casualty incident.

Dispatch Center:

- Alert police, fire, and medical supervisors.

Hospital:

- Notify other medical facilities as appropriate.

Crash/Fire Rescue:

- Initiate incident command system.
- Notify dispatch of command post and staging locations.

As an example from the detailed events above:

Survivors entangled in wreckage—**expected action:** special extrication equipment brought in.

Trapped people found severely injured—**expected action:** paramedics establish EMS branch within ICS.

Onlookers get in the way—**expected action:** law enforcement sets up perimeter and security.

Messages

Messages are the means by which the expected actions are brought about. They are communicated to the players by:

- Telephone.
- Radio.
- Delivered by hand.
- Whispered.
- Transmitted by fax.

There are two kinds of messages: pre-scripted (developed prior to the exercise), and spontaneous (developed when players react in different ways). The spontaneous messages can also be "free play", infused into the exercise by the controller or simulator to induce, create, or steer players to react.

Messages must come from a credible source, as if it actually happened, and be delivered to the proper parties. For example, John Q. Public would not be able to report anything directly to the EOC, but he could through the communications system, 911, or other dispatch. This then would become a message into the EOC from dispatch.

The standard message form used should have several components:

- Source: is it credible?
- Method sent: phone, radio, fax, LEIN, or verbally.
- Content: is there enough information being sent?
- Recipient: who receives the message, and do they have the authority to act?
- Number: recorded by message controller.
- Time.
- Action taken: response of the player to the message (optional, as this may go on a situation log).

The following is an example of a message form:

DISASTER EXERCISE

<MESSAGE>

TO: METHOD: FROM:

NO: TIME:

CONTENT:

ACTION TAKEN:

Message Examples

From: Police To: EOC Police Staff

Cab door of trailer truck has been forced open and driver has been removed. Shipping papers indicate hydrochloric acid being transported. Acid flowing into sewers. Attempts to open rear trailer door ongoing.

From: Environmental Protection (Field) To: EOC Environmental Staff

Resident managers of apartments in area request information concerning safety of drinking water, water in swimming pools, and dwellings after evacuees are allowed to return to homes.

From: EOC Fire Staff To: Fire/Rescue Communications

Weather Service reports winds in an east-northeast direction at 10 to 15 m.p.h. with gusts of 20 to 25 m.p.h. Forecast for continued rain with possible thunderstorms and strong gusting winds of up to 45 m.p.h. during the storm. Current temperature: 82 degrees.

From: Chemical Facility Safety Officer To: Fire Dept. HazMat Team Leader

The supervisor responsible for shutting off chemical valves in a plant area near the fire has not reported in. It is unknown whether the valves have been shut off and whether the person has evacuated.

From: Betsy Ames To: Township Fire PIO

My name is Betsy Ames. I'm a reporter for the Daily Express News. Can you give me a flood situation report for Hamilton, Jordan, Kemper, and the lakes in this area?

For a functional or full-scale exercise activity, a "Master Scenario Events List" (MSEL) should be constructed to provide the guidance for controllers and/or simulators in keeping the exercise on schedule. It is important that messages are entered in proper sequence so the exercise will maintain "flow" and controllers can monitor the tracking of the messages. As an example:

Sample Master Scenario Events List

Time	Message/Event	Expected Actions
7:35 a.m.	Plane radios tower: losing engine power and altitude.	1. Tower notifies dispatch center. 2. Dispatch alerts police, fire, medical to proceed to airport.
7:40–7:50 a.m.	Pilot reports major vibrations/noise; requests runway designation.	1. Tower designates runway; notifies dispatch of runway and potential for mass casualty incident. 2. Dispatch relays runway to police, fire, medical. 3. Dispatch notifies hospitals. 4. Crash/Fire Rescue initiates ICS; notifies dispatch of CP and staging locations. 5. Dispatch relays CP and staging locations to police, fire, medical.
7:55 a.m.	Hospital calls dispatch requesting more information.	1. Dispatch obtains potential number of casualties and relays to hospital. 2. Hospital notifies other medical facilities.
8 a.m.	Media calls dispatch requesting information.	(etc.)

Master Sequence Of Events
(for a four hour exercise, including message number)

Input Time	Event #	Message #	To	From	Message
8 a.m.	# 01	# 101	911	Airport Tower	Aircraft with mechanical problems on final approach.
8:02 a.m.	# 02	# 102	Fire and Rescue	911	Airport requesting assistance to support fire, search and rescue, and Haz Mat.
8:03 a.m.	# 03	# 103	EMS	911	Airport requests assistance to support mass care operation.
8:05 a.m.	# 04	# 104	911	Airport Tower	Aircraft has crashed on Runway 23, on fire, some survivors visible, request additional emergency services of city.
8:07 a.m.	# 05	# 105	911	Fire Unit #2	Establishing incident command at Airport Operations Building.

Exercise Enhancements

Purpose

Exercise enhancements are those items that can add realism to an exercise. With smaller exercises, this could include notepads and maps. In larger exercises, radios, telephones, fire equipment, and water or foam could be used. It is intended to provide realistic props that may be used in an actual event. They are listed in six categories:

- Communication devices—hard-line and cellular phones, hand-held radios, fax machines, and ham radio.
- A/V equipment—TV/VCR, AM or AM/FM radio, overhead projectors, slides, computers, and mapping.
- Office equipment—copy machine, fax, office supplies, chairs, desks, and tables.
- Equipment—vehicles: trucks, planes, boats, and buses; buildings, body bags, moulage, mannequins, fake smoke, blood, and junk equipment.
- People—drama students, church volunteers, other volunteers or organizations.
- Places—airport runway, military base, rail yard, industrial facility, or college campus.

Take Advantage of What's Available

There are always financial limitations, so plan to make use of the communications equipment your community normally has available during an emergency. Consider the following:

- Hardline telephone.
- Radio phones.
- Hotline dedicated phones.
- Portable/handheld radios.
- Cellular telephones.
- Military phone hookups.
- Citizens' Band (CB).
- Teletype systems.
- Fax machines.
- Amateur Radio Emergency Service (ARES).
- Radio Amateur Civil Emergency Service (RACES).
- Monitors/scanners.
- National Oceanic Atmospheric Administration (NOAA) Weather Radio.
- National Warning System (NAWAS).
- Computerized radio packet.

How to obtain exercise enhancements

Naturally, the first areas to explore for these items are within your own departments themselves, and organizations they can access. The costs of using any items must be weighed and determined, if feasible. The responsibility of borrowing equipment should be taken seriously. If it is to be returned, it would be necessary to return it in excellent condition, where applicable.

If enhancements are not readily available, other private organizations may be willing to donate or lend equipment. A personal contact should always be made in any attempt to secure donations. Again, understand what the conditions will be if the items are to be returned. If donated, can they be recycled for the next exercise?

Also, the fact that other organizations (airports, hospitals, and other facilities) may need to exercise may allow you to use their items, by combining exercise efforts into one exercise.

Creativity

To provide players with the proper feel of a real event, it may be helpful to work with the local television stations in creating simulated news or news breaks. They may have actual footage that they can edit for your purposes. These can then be shown to the players, simulating live broadcast reports.

When a mass care scenario is involved, the scene can be set up and acted out, including makeup and props. Using the local weather service to send in exercise or drill messages, as if it was actually being reported, can be set up to trigger specific actions of players.

Maps are very effective tools to use as part of the exercise. All exercises that involve hazards affecting an area should include the charting of maps as events unfold. Preparation for obtaining municipal, county, and possibly state maps will need to be made prior to an exercise. Players would then update the areas affected. It will also be important for decision-makers in planning for possible future concerns or disaster management issues. Some of the types of maps needed may be:

- City streets.
- County roads.
- Sub-divisions.
- Sewer main and facilities.
- Water main and facilities.
- Electric lines and facilities.
- Gas lines and facilities.
- Flood pains.
- Contours.
- Police and fire districts.
- Facility, plant, rail yard, terminal, and airports.

As part of an exercise, an expected action would be to have the appropriate agencies create maps (if time permits).

Control charts and logs will be vital to the operation of agencies participating in the exercises. Status boards, event logs, resource charts, and any other helpful “visual” reference can benefit players, and practice on keeping them up-to-date is important.

Chart Examples

Type of Chart	Description
Problem and Event Log	▪ Large events display board for posting major events. ▪ Should be available for all in the EOC to review. Also useful for EOC shift change briefings. ▪ All major problems reported are entered in the log as they are received. ▪ May be divided into columns: Nature of Problem, Problem Number, Assignment, Response, Remarks.
Damage Assessment Chart	▪ Divided into columns: Areas Reporting Damage, Time of Report, Extent of Damage.
Facility Charts and Status Boards	▪ Used to track facilities involved in the exercise so participants are aware of available resources. Companion maps are useful. Examples of facility charts: • Hospitals: beds available, blood and other supply needs, personnel. • Congregate care facilities (e.g., those run by Red Cross or social service agencies), space available, status of food, water, bedding, medical stocks. • Law enforcement resources: numbers and locations of sworn, reserve, and auxiliary personnel; status of mutual aid units. • Fire resources: deployment and availability of fire units, status of fire mutual aid forms.
Organization Charts	▪ Useful for staff as a means of anticipating what agencies should be coordinating or reporting to other agencies. ▪ Optional.
Master Scenario of Events List	▪ Mainly for controller's use, to keep exercise on schedule. Should not be seen by players. ▪ Contains detailed sequence of events developed as part of scenario.
Simulation Plotting Map	▪ Used by controller and simulators. ▪ Depicts pre-scripted input exercise information. ▪ Coded markers may be used to depict actions taken by various organizations (police, fire, medical/health, public works, utilities, Red Cross/voluntary agencies.

Other concerns

Just as important are the safety and liability issues of the exercise. Proper planning should include the discussions and formatting of safety rules, damaged equipment, and protection of all personnel involved in the exercise. (This should be addressed in the exercise control plan).

Exercise Evaluation

Definition

Exercise evaluation is the act of observing and recording exercise activity or conduct, by comparing the behavior or actions against the exercise objectives, while noting strengths and weaknesses.

Evaluation of Performance

It is important to evaluate the actions of the functional areas and see if they performed as expected, as defined by the objectives.

During an exercise, mistakes will occur and players will learn from them. However, it is just as important to report on the successes that were shown during the exercise. Certain issues or problems may surface, possibly unexpected, and changes may be made for the future. Certain policies, procedures, and equipment may be needed, replaced, or added.

Documenting the results will be a crucial factor in providing the information needed to be presented to a governing body.

Evaluation Process

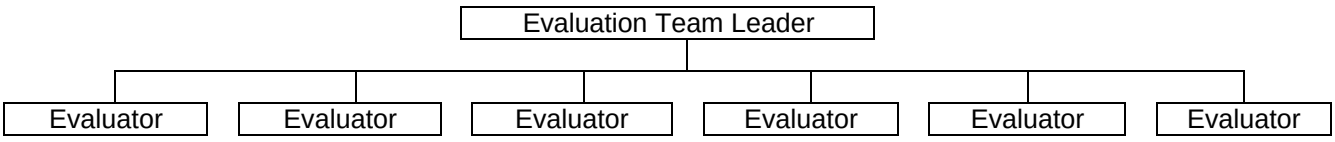
Evaluation of an exercise actually begins in the planning of the exercise. Just as in the exercise design process where a design team leader is selected, at the same time someone will be selected to lead the evaluation team. This person should have experience in evaluating exercises.

As an evaluation team leader and a member of the design team, he/she would be responsible for:

- Selection and training evaluation team members.
- Creating the evaluation plan.
- Developing the evaluation methodology.
- Directing evaluation activities.
- Conducting post-exercise meetings.
- Writing the evaluation report.

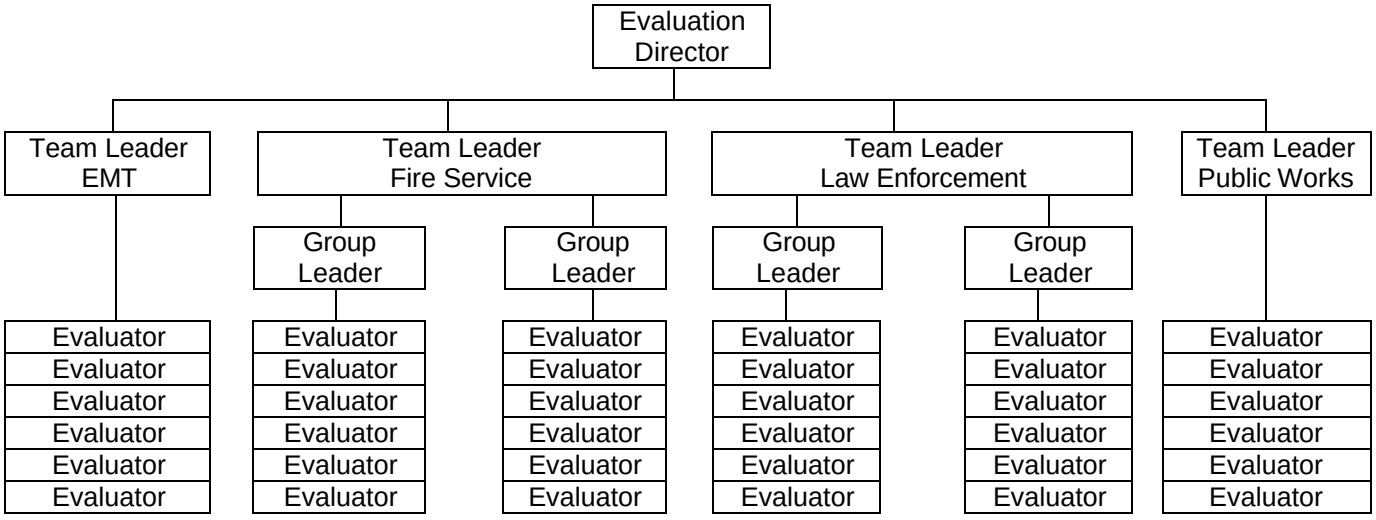
Evaluation Methodology – Selection and Structure of the Evaluation Team

The size of the evaluation team will depend directly on the size of the exercise. As an example for a small exercise, the structure may be similar to this:



Notice that this structure would lend to few organizations, locations, and a limited number of objectives.

For a more formal and complex exercise, it could be organized as this model:



Notice that this would have several locations, multiple organizations, and a large number of objectives.

Selection of evaluation team members will require determinations to be made about:

- Sources for evaluators.
- Desirable skills of evaluators.
- Qualities or characteristics that should be sought in evaluators.

Sources for Evaluators

Evaluators may come from inside or outside the local emergency management system. Arguments can be made for both, but normally this would be decided within the exercise design process. During the planning, personnel can be delegated with assignments and a determination can be made if there is enough staff to provide evaluators. This would be an advantage, as they would be familiar with the local emergency management system.

Some sources for evaluators outside the organization would be:

- Neighboring jurisdictions.
- Emergency services personnel not playing.
- Professional evaluators or consultants.
- State or federal agency personnel.
- College or university faculty.
- Public service groups or volunteer organizations.

Some problems that may arise in recruiting would be financial, political, or lack of ideas.

Skills of Evaluators

- When searching for evaluators, it is beneficial if they can provide the proper expertise and experience.
- If your prospective evaluators are familiar with your plan, the learning curve is shortened.
- They should have good verbal and written communication skills.
- Organizational and analytical skills are necessary in keeping with your exercise design.
- Political skills are needed in handling sensitive situations that may arise.

Qualities or Characteristics of Evaluators

Evaluators should possess the following characteristics:

- The ability to work with other people, without constant supervision, keep the information confidential until the proper time, and ask questions or give answers promptly when needed.
- Honesty and objectivity (without projecting their own feelings).
- Flexibility needed to adapt to rapid changes in situations.
- Attentiveness throughout the exercise.

Evaluation Methodology—Objectives

Remember, you are asking the players to take action, to see how their functions perform against the objectives. Therefore, you will be interested in getting a report on what the evaluators observed.

Evaluation Methodology—Evaluation Packet

Evaluation packets are used to assist the evaluator while observing the exercise; specifically, the exercise evaluation form. This would include "points of review." Points of review are statements in the form of a question, for the evaluator to notice or look for as described on the evaluation form. They can be represented on the form by:

- Checking a list or boxes identified.
- Simple yes or no checked or circled.
- By a rating system as 1=low, 5=high.
- By responding to a question that is posed.

Also, part of the form is a section of blank or lined space for narrative about what was seen. The following is an example of what an evaluation form may look like:

Evaluator Name:_____ Assignment or Location: _____

Exercise Name: _____ Date: _____

Objective # : _____ Function Being Tested: _____

Objective:

_____
_____
_____

Points of Review (examples):

1. Were traffic control staff deployed to traffic control points? Yes___ No ___ N/A ___
2. Were access control staff deployed to access control points? Yes___ No ___ N/A ___
3. Did traffic or access control staff display accurate knowledge of their roles? Low 1 2 3 4 5 High
4. Did the organization follow its plans and procedures? If no, explain._____

_____
_____
_____

Narrative: _____
_____
_____
_____
_____
_____
_____

Evaluator: _____ Organization: _____
(Signature of Evaluator)

It would be beneficial to perform some pre-exercise orientation with your evaluators to review forms, terminology, and reporting requirements. This will depend on the level of expertise of the evaluators. Also, they may need checklists, reference documents, maps, etc. Communication devices may also be used by evaluators and are part of the exercise packet.

If you are using new evaluators for your exercise or training personnel to be evaluators, it will make a difference in the agenda items for the orientation. Some of these items should be part of any agenda:

a. Exercise scenario.
b. Rules of play.
c. Exercise schedule.
d. Specific objectives to be demonstrated.
e. Evaluation assignments.
f. Logistics including dress, times, transportation, and communication.
g. Information about the jurisdiction.
h. Any other needs.

During the Exercise

The evaluation team will be placed in position, whether in an EOC, or at field sites, or both. As evaluators, some of the practices they should employ include:

1. Be unobtrusive to the players and don't draw attention to yourself.
2. Be familiar with key events, MSEL, plans, procedures, and resources of the functional area.
3. If unable to document necessary data, contact the evaluation team leader.
4. Avoid making evaluations and judgments during the exercise.
5. Avoid conversations with other exercise staff or players.
6. Record the time of observations.
7. Expect to be monitored by the exercise or evaluation team.
8. Be familiar with the evaluation checklists and report forms.
9. Minimize your effect on the exercise by being as low-key as possible.
10. Be aware of the potential impact of the evaluator on exercise play.

Evaluators may have an effect on the exercise based on factors that may be intentional or unintentional. With good selection methods and proper training, most of the factors can be reduced or eliminated.

Evaluator Effects

Type	Description
Effects of evaluator on the player	Player(s) being observed change behaviors because they are aware of observation.
Effects of evaluator on the setting	Presence of the evaluator may lead to anxieties or expectations that change climate of the observed activity.
Evaluator personal bias	Systematic errors traceable to characteristics of the evaluator.
Error of leniency	When using a rating scale, the evaluator tends to make most ratings at the favorable end of the scale.
Error of central tendency	When using a rating scale, the evaluator tends to make most ratings around the midpoint.
Halo effect	Evaluator's initial impression distorts later evaluations or judgements of the subject.
Evaluator omissions	Because the exercise action is happening so

	quickly or simultaneously, the evaluator misses actions that should be recorded.
Evaluator dirt	At the end of training, evaluator reliability is high; but in the field, as monitoring and motivation decrease, evaluators become less reliable.
Contamination	Evaluator's knowledge about players and organizations influences perception of events observed.
Hypercritical effect	Evaluator belief that the job requires finding something wrong, regardless of player's performance.

After the Exercise—Player Critique

A player critique (debriefing) should be conducted immediately following an exercise. This will allow them to talk about how they felt about the exercise. The questions for the critique may be presented orally or in writing. Normally, a member of the design team, possibly the controller, would conduct this critique. Comments about the exercise and their performance are desired. This should be kept positive. The evaluators should not provide input at this point, except for general positive remarks, saving their specific comments for the evaluation report. The following is an example of a player critique:

Exercise Critique Form

Please take a few minutes to fill out this form. Your opinions and suggestions will help us prepare better exercises in the future.

1. Please rate the exercise overall on the scale below:

1	2	3	4	5	6	7	8	9	10
Very Poor									Very Good

2. Compared to previous exercises, this one was:

1	2	3	4	5	6	7	8	9	10
Very Poor									Very Good

3. Did the exercise effectively simulate the emergency environment and emergency response activities? Yes_____ No_____

   If no, briefly explain:_____
   _____
   _____
   _____

4. Did the problems presented in the exercise adequately test readiness capability to implement the plan? Yes_____ No_____

   If no, briefly explain:_____
   _____
   _____
   _____

5. The following problems should be deleted or revised:
   _____
   _____
   _____
   _____
   _____

6. I suggest you add the following problems for the next exercise:
   _____

_____
_____

7. Please add any other comments or criticisms below.

_____
_____
_____
_____
_____
_____
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_____

Regardless of whether the player critique is oral or written, the comments made should be collected, as they may provide input into possible future exercises, changes in procedures or plans, or equipment that may be needed. The most important factor in this discussion is for the players, as a group, to provide feedback that everyone can learn from, bring up possible solutions to problems, or address new attitudes in promoting the emergency management system.

After the Exercise – Evaluation Meeting

After conducting a functional or full-scale exercise that involves the use of several evaluators, it is a good idea to have them meet to analyze the exercise and organize evaluation information. This provides an opportunity for them to confer, possibly on what was seen, or respond to comments in the player critique. These sessions may provide vital additional information for the full evaluation report.

After the Exercise – After Action Reports

Within an appropriate amount of time following the exercise (one to three weeks, so memories are still fresh), a formal report should be prepared. The purpose is to formulate a document that will provide:

- The basis for future exercises.
- Upgrades in the emergency operations plan.
- Corrective actions recommendations.

The length of this report will vary with the type and extent of the exercise. For a small exercise, a memo may be sufficient. However, with functional or full-scale exercises, it is highly recommended that a formal document be prepared. This report should be specific, including:

- What worked and what did not?
- Were the objectives of the exercise and functions met?
- Analysis of the problems or deficiencies.

- Accomplishments and shortfalls.
- Recommendations.

A copy of this report should go to the chief elected official and the heads of each participating agency or organization. Additional exercise reports may be mandated by other agencies to complete.

After the Exercise – Follow-up

As part of the recommendations that could be made, a specific action plan should be identified. If these actions are for specific functions, timelines should be drawn up and then at an appropriate time later, revisited for completion. Personnel should be assigned to complete the action plan items. If they are crucial or high priority actions, this cannot be neglected, but monitored for progress.

Depending on how the report is to be delivered, it may be requested to not only provide the documentation, but to present an oral appraisal to a committee or full governing board. In this manner, after reviewing the report ahead of the actual meeting, members can ask questions or obtain clarification on analysis, comments, or recommendations.

It will be important to prepare in advance, as you would for any other presentation. This would be done by the evaluation team leader or design team leader. A few things should be considered prior to giving the report:

a. How large will the audience be?
b. What is the composition of the group?
c. What do the listeners know about the presenter?
d. What do the listeners know about the subject?
e. Is this a public meeting with local residents attending?
f. What attitudes or beliefs may be present in the group?
g. Is there support for the emergency management program?

Appendix A

Exercise and Conduct

The day of the exercise is the culmination of all your planning. You will conduct the exercise using any of a variety of methods. As you have seen in earlier sections, exercise program activities build on each other. The techniques or orientation seminars are useful in later exercises, for example, as an initial participant briefing for a functional exercise. This guide suggests that the experienced designer should review the tips included for all the different elements of the emergency management program.

In the following pages, orientation seminars, drills, and each of the three exercises will be examined with suggestions on their conduct: beginning the activity, methods for conducting, and sustaining action.

Conducting Orientation Seminars

Beginning an orientation seminar is like any other regularly scheduled meeting: attendees arrive and introductory comments on the purpose and actions anticipated are made.

Methods vary widely for orienting individuals to a plan, procedure, or idea. A **lecture**, for example, given by the plan developer, a governing official, or an industrial expert, can effectively get the message across. **Films, slides, or videotapes** are available from the Federal Emergency Management Agency, the U.S. Geological Survey, and the National Weather Service, as well as some states and voluntary organizations. Some localities have even videotaped past experiences that would be useful to review. Well-planned **panels** with diverse viewpoints are effective and stimulating.

Talk-throughs involve a sequential discussion of roles and responsibilities in a plan, annex, or set of procedures. The technique involves assembling personnel from agencies with a part to play in the plan or procedure. With the plan in front of them, the talk-through is begun with the initiation of the plan. One by one, participants describe a)the steps they take to implement the plan; and b)the agencies they contact during implementation. Other participants follow along and interject comments, for example, when they feel their agency should have been contacted, or when they have a resource that would have been useful. From beginning to end, a talk-through offers the chance to identify gaps, overlaps, and inconsistencies while developing some personal familiarity among personnel.

Brainstorming employs materials similar to those of problem resolution. The approach taken to resolving problems, however, arises. Brainstorming requires everyone to enter into “idea getting” rather than “idea evaluating.” Its purpose is to come up with a solution in a freethinking format of total involvement by all participants. The process requires everyone to join in by suggesting any idea related to solving the problem. Any judgment about the value of the idea is suspended. If it is a good idea, others will “hitchhike,” adding to it and expanding it. If it is an inappropriate suggestion, the group simply does not follow up. There is no criticism. There is no justification or explanation. The problem passes from one participant to another (in a round robin) with everyone throwing out ideas that are new or additions to previous ideas. The goal is to explore all possible alternatives, rather than restrict the focus by expanding on any single idea or direction.

A **case study** discussion differs from the two previous methods by reporting on an actual emergency incident. The purpose is to seek lessons learned applicable to the jurisdiction. The case is reviewed by a moderator or read individually by participants. Questions can then be raised for discussion about the actions taken in the case, or perhaps the actions participants would take if faced with a similar incident. Cases are available from many sources, ranging from those you could construct from newspaper accounts, to after-action reports of local or state agencies, to those prepared by federal oversight agencies, such as the National Transportation Safety Board.

Sustaining action in an orientation seminar is largely the responsibility of the leader or moderator. In a lecture, the seminar leader needs to keep the lecturer from going on too long. In a panel, the moderator

needs to keep crisp and to the point. Films or slides need to be reviewed and used selectively if parts are inappropriate.

Variety is also useful in sustaining action. Visual aids (flip charts, overhead projectors, etc.) provide variety, as do question and answer periods. Combining lecture and panel discussion also results in a varied and stimulating format.

Conducting Drills

Beginning a drill will more than likely depend on the type of drill being conducted. For example, a command post drill would require the personnel of the emergency service that are participants in the drill to report to the designated drill site. There, a "visual narrative" is displayed before them in the form of a mock emergency to which they would respond. Command post equipment such as vans, command boards, and other needed supplies should be available.

Methods will vary widely from the practice of simple operational procedures to more elaborate communication and command post drills. A general briefing, setting the scene, and reviewing the purpose and objectives of the drill should be conducted by the drill designer. Operational procedures should be reviewed before the drill if they are to be tested. Safety precautions should be considered and reviewed with the participants. In some drills, films, slides, or videotapes can be utilized to set the scene for a drill.

Sustaining action includes both planned and spontaneous messages based on the actions of the participants. In most cases, such as when procedures are being tested, little or no communication from the drill designers would be required. In more advanced drills, interaction between the drill designers and the participants may be necessary.

Conducting Tabletop Exercises

It is useful to begin a tabletop exercise with an exercise briefing period to orient the participants. Here a player handbook could be provided to them, which would include the purpose of the exercise, a summary of the **general** objectives, discussion and clarification of ground rules, expectations, forms or documents and their use, etc.

The presenting of the scenario narrative, prepared by the exercise design team, may be in the player handbook or presented by the exercise controller. The exercise controller will begin the exercise by introducing the first problem to the participants.

There are two types of tabletops: basic and advanced. Basic tabletops seek to solve problems in a group. Advanced tabletops introduce messages.

In problem resolution, the scene set by the scenario materials is usually made up. The scene describes an event or emergency incident, and brings the discussion participants up to the simulated present time. The materials either provide all the details about the imaginary jurisdiction involved or allow players to use their knowledge of local resources as the context. Players then apply their knowledge and skills to a list of problems that might appear at the end of the narrative, or that are verbally presented one at a time by the seminar leader. Problems can be discussed as a group and resolution generally agreed on and summarized by the leader.

In the advanced tabletop exercise, play revolves around delivery of pre-scripted messages to players. Play can follow two courses. All players can evaluate the same message and announce their actions or decisions at the conclusion of a "round." Discussion might then take place or another message could be given. A second technique treats players individually. Each gets the messages intended for the agency he or she represents and makes a decision. When a decision is made, another message is handled. Players are left alone to individually seek out information and coordinate decisions with other players.

The exercise controller will normally introduce problems one at a time in the form of a written message. Participants will discuss the issues raised by the problem, using the appropriate plan for guidance and direction. Participants will then take action on the problem. Action can be in the form of a written directive or an indication to the controller that the appropriate jurisdictional plan does not supply adequate guidance or direction for them to follow in resolving the problem.

The controller will monitor the participant discussion and assist in guiding the discussion if any such action is necessary. Each problem will have a recommended time frame for participant action. If the controller sees excessive time is being used on a problem situation, they may elect to terminate the discussion and move on to another problem. The exercise controller will also determine if time should be extended.

At the completion of participant action on a given problem (or while participants await a response on an inquiry to a previous problem), the controller will input another problem. It is recommended that the participants in these exercises work on only one problem at a time.

The controller and simulators (if used) will make appropriate notations concerning the participant actions, the adequacy of the plan to provide participants with guidance and direction, and any other problems which come up during the exercise.

The tabletop exercise is better suited to exercising single emergency management functions or very few functions. Training in decision-making and resource allocation are good uses of the tabletop.

Sustaining action in a basic tabletop continues to be an important function of the leader or moderator. Techniques are available, however, to assist the leader. First, the scenario narrative or case can be developed in event stages. That is, the initial narrative may involve a warning; a later one could deal with search and rescue. In this way, more than one narrative can be used to sustain action.

Second, the progression of problems that the participants address is a natural way to modify or improve the flow of action in the seminar. Problems can be added or deleted to alter speed of consideration.

Third, combining methods also offers the opportunity to vary action in the seminar. Problem resolution might give way to brainstorming for a single difficult problem. Or, a case study might precede a scenario narrative to allow participants to utilize the case lessons learned.

Sustaining action in an advanced tabletop exercise is largely dependent on message flow. Sending multiple messages can increase pace; delaying messages decreases pace. In general, spontaneous messages are used in a tabletop when free play has resulted in events or actions developing in the exercise that were not anticipated by the designers. You must be careful to control free play so that it supports the objectives of the exercise. All it takes to bring the free play back on track is a word from the controller. Do not hesitate to control the exercise tightly.

As you can see, sustaining action is important. The tabletop is basically low-stress, with emphasis on discussion and controlling action. It is low-key training, not testing. Knowing when to suspend action is as useful as knowing how to sustain action. The controller or leader needs to watch carefully for signs of frustration among players. If difficulty arises, messages back up, or a problem causes conflict among players, stop the exercise. Reach into your experience as a discussion leader and help players talk about their situation. Engage in constructive problem solving. The tabletop is designed to be one step along the way to functional and full-scale exercises. Avoid a bad experience with exercises by keeping in mind the low-key nature of the tabletop.

It is recommended that an EOC be used for exercises because it provides the most realistic setting; the various plans, displays, and maps are available on the premises. However, any conference facility that will comfortably accommodate the number of participants in a face-to-face setting will be adequate.

Copies of the appropriate emergency plan(s) must be available for reference, as should maps and other displays that would typically be available in the EOC and that may be necessary for references during the discussion periods. It is recommended that there be an evaluator(s) or a recorder to document the actions taken by the participants. These recorded actions will serve as a reference for the exercise evaluation.

Conducting Functional Exercises

Beginning a functional exercise will depend on its objectives. If an objective is to test the notification system, then it needs to be established for that part of the exercise. The success of an exercise depends largely on the participants having a clear and consistent understanding of what is expected of them. Again, a player handbook is an essential tool for the functional exercise. Many exercises fail because the ground rules or simulation techniques to be used during the exercise are inadequately explained. To ensure that all exercise objectives and procedures are understood, participants should be briefed before the start of the exercise.

The briefing should include a statement and discussion of the general exercise objectives, the time period in which the exercise is to be conducted, a description of the environment, recording requirements, and an outline of the procedures and ground rules to be employed. The outline of procedures should clearly specify the participating agencies, and the internal and external non-participating agencies and services. This briefing should be held immediately before the start time of the exercise.

Be sure to include the following information in the player handbook under “Administrative Notes:” location of restrooms, lunch time, parking locations, etc. In designing the conduct of the exercise, ask at every opportunity: “Will this distract from the atmosphere of a real emergency?” Avoid everything that does.

Methods are exclusively those of delivery and reaction to simulated messages that represent the emergency created by the exercise designers. Messages can arrive on paper, by telephone, radio, fax, written, or verbally. They are directed specifically to individuals or agencies who are then responsible for coordinating any responses with other players.

The value of the exercise will depend on the extent to which the participants are successful in carrying out their functions as if it was a real emergency. Exercise participants should be encouraged to think of each input of a message as an actual event. From the general message input, participants should determine the expected consequences or effects, coordinate internally and externally with whomever they deem necessary, and take the appropriate action.

Participants should be encouraged to treat simulated communication outages, damages, failure of equipment, logistical limitations, and personnel losses as if they were actually occurring. These types of situations, which cause a degraded environment, have a particular value because they place added stress on the system and will more effectively test its ability to cope in times of emergencies.

Functional exercises use two methods of message delivery: pre-scripted and spontaneous messages, developed by simulators or controllers. Where applicable, a simulation room permits a considerable advantage over the tabletop exercise in that messages can be dynamically modified to suit the evolving nature of the exercise. In a tabletop, with few or no simulators and limited control manpower, this is not possible. But with several simulators, this method becomes an exciting way to constantly modify the exercise to suit the needs and skills of the players.

Sustaining action through planning is one way to approach a key goal of scenario and message development for the functional exercise: having everyone who is involved active throughout the entire exercise. This requires careful planning and review of the message flow throughout the exercise.

The simulation controller will have the responsibility to monitor message traffic, by keeping track of what messages have been delivered to players. He/she may elect to keep track of messages by listing the numbers on a board (dry erase or chalkboard) and checking them off (example: messages 1-5 & 7, 9, & 11 are in, and other messages will then be checked off as they are entered.) He/she may also develop a

message board by functional area, again using the message numbers noted under each functional area. (Example: Fire = 1,3; Police = 2, 4, 6; EMS = 5, 7; etc.)

The simulation controller will quickly see the gaps and overloads in the message flow.

Simulator Role

In order to create a real-life environment, simulators act as, and on behalf of, the involved agencies and services not participating in the exercise. Simulators insert messages into the exercise that are representative of these agencies and services. Some of the inputs are scripted in advance, while others will be introduced based on the reaction of the players, verbally or in written form. Simulators must be prepared to reply to participant questions based on their expertise or collective wisdom of the simulation team. They also must "play the role" as an actor to the script, in communicating with players. As experience is gained, functional exercises can become as complex, from the player's perspective, as full-scale exercises.

Simulators should take care to ensure that key events are kept active in the exercise. For example, an exercise participant may not recognize the importance of a key message. He may put it aside without taking action, take inappropriate action (e.g., giving the event a low priority), or delay action. As a consequence, the value of the message as an indicator of system performance is greatly reduced. In such cases, the simulator (or exercise controller) should strive to cause the participant to retrieve the event and act on it. It may only be necessary for the simulator to call and inquire as to why no action has been initiated. In some cases it may be necessary to improvise a situation that would call attention to the lack of action in response to the event. When all else fails, it may even be necessary to reintroduce the message. Ensuring that key events are given full and timely attention will require ingenuity on the part of the simulator.

Controller Role

The exercise controllers monitor message input and participant's responses. Scheduled messages that become invalidated by a participant action before they are input must be deleted by the controller. In these cases, the controller informs the simulator of the fire fighting equipment when the fire chief has already sent equipment into the area. In multi-jurisdictional exercises or full-scale exercises with multiple scenes, controllers at each location must follow the exercise play closely and advise other controllers of any changes. A change in a situation at one location may affect exercise play at another location.

Another type of input that is not pre-scripted is the "impromptu" or "freeplay" inserted into the system by simulators, based on participant's reactions and other input. Care must be taken in selecting these kinds of input, so that they do not invalidate or conflict with other pre-scripted messages. When this occurs, exercise controllers must be informed of the necessary change.

<u>Assuring a Smooth Flow of Messages</u>

Dealing with overloads is fairly easy. First, review your objectives. Throw away any messages that do not contribute to the objectives. Second, make certain that all messages are accurately assigned to the right agency. Reassign the message if it could be used by another agency. Third, divide the cluster of overloaded messages into two piles—those essential to the flow of the exercise, and those "nice to have." You will want to get rid of some from the latter group.

Gaps are harder to handle. Look at the agencies with gaps and see if they have been unintentionally ignored. As the exercise package is developed, this should be a major concern. If so, add messages. It may be, however, that the agency simply has little to do during a period of time. Also, you may develop a supply of optional messages, or they may be generated spontaneously. Their purpose is to keep exercise activity at the proper level. Boredom is a contagious disease. One inactive agency can distract others and bring down the intensity of the exercise.

Side events are routine actions an agency would have to continue throughout an emergency. The health department could receive a call about a well that smells of sewage. A routine traffic accident can stress police and fire. An unrelated heart attack victim can be reported. The purpose of side events is to test resource allocation and priority setting, but be careful not to overload the exercise with too many events.

Special planning requirements would cause an inactive agency to engage in some type of short-term preparedness activity. For example, hospitals could run a test of emergency generators, or public works could notify all drivers of possible overtime hours coming up.

Secondary emergencies develop out of the main flow of exercise events. If the tornado spotters or amateur radio groups have a gap in activity, another (secondary) tornado can be reported to keep those groups involved. Similarly, utility outages, water main breaks, gas leaks, and emergency vehicle accidents can all run parallel to the main course of the exercise and keep one or more agencies involved between their own major exercise events. These should all be planned by the exercise design team.

Sustaining action through spontaneous messages is a second technique used in a functional exercise. There will come a time in the flow of messages when controllers have to live by their wits to keep the exercise activity high and on course. Many different problems can arise and solutions can be found, but it may help to keep the next three described in mind:

Problems and Solutions for Sustaining Action

Problems	Solutions
Lagging pace: it is possible that there will be insufficient messages. Decisions may be made faster than anticipated and the exercise may get well ahead of schedule.	Speed and insert: if responses are made faster than anticipated by nearly all the participants, resulting in people sitting around waiting for the next message, then speed up the flow of messages. You'll finish sooner than expected and learn an important lesson on pacing. If, however, only a few of the players are responding quickly and have time on their hands, then insert spontaneous messages. Throw them additional problems to handle to bring their pace back in line with other agencies.
Frantic pace: you may have packed too many messages and decisions into the exercise, resulting in a frantic pace. This often offers only minutes for a half-day deliberation. If an early decision takes more time than planned, messages may build up, resulting in a frantic attempt to "catch up" to schedule. **Note**: It is better to start the exercise with a steady pace and see how it develops. Overloading some agencies may lead to them never catching up. This could lead to frustration and ultimately non-support for future exercises.	Spontaneous rescheduling: when one or more players face a nearly impossible pace, it may benefit the entire exercise to remove messages. This can be done selectively for one player or across the board for all agencies. The most dangerous time for the frantic pace is early in the exercise. Reschedule early to avoid the last minute rush to completion. You will want to pull optional messages in the middle of the exercise rather than have players rush through important decisions toward the end. A final consideration in a frantic pace is whether or not you want such a pace. Removing messages to create a good "show" will not benefit actual emergency response. One potential benefit of a frantic pace may be

the assignment of more department or agency personnel to the EOC. A realistic frantic pace in an exercise may illustrate the importance of properly staffing the command center.

Avoiding divergence: the exercise that you have so carefully planned probably has a dozen or more points where it can get off track. For example, the decision to evacuate must be made by a specific time or the exercise cannot proceed because later exercise events assume the evacuation has begun. In the section of this guidebook on writing narratives (an eight step process), you will learn how to pinpoint these crucial decisions. The problem is in getting them made if the players don't make the decision in time.

From hints to force: if a major checkpoint has been reached and the decision is yet to be made, and additional message can be given to provide a "hint" about the decision. A not-too-subtle hint might be "The mayor (or governor/city manager executive, etc.) just telephoned inquiring about the need for evacuation." If this doesn't result in the desired action, the controller can always "force" the decision by talking with the player, and simply stating that a decision to evacuate should be made now. Defer any discussion on why the decision was made until the critique.

Skip-Time Procedures

Functional exercises can depict events and situations that would actually occur over an extended time period (one to two weeks or more). In order to include the several distinct phases of the emergency in a 4-6 hour exercise, or one or two day exercise, it will be necessary from time to time to stop the exercise and advance hours or days ahead, depending on the particular exercise. These skip-time transitions are kept to the minimum necessary to cover the scope of the exercise and usually coincide with a natural breakpoint during a given exercise session.

The exercise controller is responsible for managing the skip-time transitions and preparing transition updates to be presented to the participants before resuming the exercise.

Simulation displays will be updated by the simulators to reflect the results of the previous events and participant actions. An additional scenario narrative should be developed to describe current status, etc. Actions ordered at a skip-time transition point that would have been undertaken during the transition period will be indicated as accomplished on the transition date.

An example would be:

Day one:	4-6 hours of response.
Day two:	4-6 hours of recovery (24, 48, or 72 hours later).

Conducting Full-Scale Exercises

Beginning the full-scale exercise occurs exactly as it does in the functional exercise. A player briefing for EOC personnel, using the player handbook, should be done. In addition, however, the personnel of the emergency service (or services) that are conducting the field component must proceed to the assigned location. There, a "visual narrative" is displayed before them in the form of a mock scene to which they respond.

Methods for the full-scale exercise include all those occurring at the EOC or command center. Added to these are the on-scene mock emergency use of simulated "victims," search and rescue requirements, equipment deployment, and actual resource and manpower allocation.

In general, the methods employed at the scene serve as an input to the simulation taking place at the EOC. However, medical plans, hospitals, emergency medical systems, fire service

deployment, and other localized emergency operations usually require centralized command establishment (incident command), with a possible link to the EOC. They do require coordination with officials at the command center. Your job in a full-scale exercise, therefore, includes creating all the messages necessary for the functional exercise, plus coordinating or managing the field deployment of one or more emergency services.

Sustaining action includes the planned and spontaneous messages of the functional exercise, but adds the element of actions or controller inputs from the field. A field command post can be used quite constructively (testing the incident command system) to enhance message input to the EOC.

Emergency Call-Off Procedures

In any exercise, a real emergency might occur. Especially in a full-scale exercise, you must always keep in reserve sufficient personnel to handle routine problems—from a fire to ordinary telephone calls to the emergency office.

In addition, every exercise should have a planned call-off procedure that will result in the prompt return of personnel and equipment of full duty status. This procedure should consist of a code word or statement (example: **CODE RED**) from the exercise controller that the exercise has been terminated and that personnel should report to their regular duty positions. All radio traffic, as well, will return to normal. These procedures should also be tested.

Appendix B

Multi-Year Progressive Exercise Plan

This plan should be based on the needs of the community, organization, or agency in preparation for emergencies or a disaster. The plan would be "function" driven.

To assist with the formation of the plan, the first step is to collect information that clearly identifies specific issues that will need to be addressed. This information would come from:

a. Past exercises.
b. Past events.
c. Skills in need of practice.
d. Functions that are weak.
e. Functions that are not exercised.
f. New facilities, personnel, or equipment.
g. Emergency Operations Plan (EOP) weakness or changes.
h. Need for role clarification.
i. Hazard and vulnerability analysis.
j. Recurring problems.
k. Threat & risk assessments.

The next step is to prioritize the needs, with the most critical being first. As an example, if the list that was developed included: lack of training for damage assessment, breakdown of alert/notification system, a change in the Emergency Operations Plan (EOP), a new Emergency Operations Center (EOC), and a new hazard, you could prioritize them as:

1. A new hazard.
2. A new EOC.
3. Breakdown of alert/notification system.
4. Change in the EOP.
5. Lack of training for damage assessment.

With this being done, the plan will now take shape as to how you will address each need by using exercise activities in a multi-year progressive program.

Each activity will be designated on the matrix in the following manner:

Orientation = O Drill = D Tabletop = TT Functional = FL Full-scale = FS

As an example:

Need	**1st Year**	**2nd Year**	**3rd Year**	**4th Year**	**5th Year**
New Hazard	O	TT	D	FL	FS
New EOC	O				
Breakdown of Alert/Notification	O	O	O	FL	FS
	D	D	D		
Change in the EOP	O	O	O	FL	FS
Lack of training for damage assessment	O	O	O	FL	FS
	D	D	D		

The different activities can be done for one, several, or all the functions, depending on the needs and the time that can be committed to training. The importance of training with the functions is the primary emphasis.

When we speak of “functions,” these are possible categories:

1. Alert, notification, and warning.
2. Coordination and control.
3. Communications.
4. Damage assessment.
5. Individual and family assessment.
6. Resource management.
7. Financial management.
8. Emergency transportation.
9. Information and planning.
10. Hazardous materials.
11. Evacuation.
12. Mass care.
13. Emergency welfare.
14. Emergency public information.
15. Health and medical.
16. Fire fighting.
17. Search and rescue.
18. Law enforcement.
19. Public works and engineering, etc.
20. Radiological.

Additionally, the makeup and design of the plan is up to the local emergency management coordinator. It may be necessary to do several orientations the first year. Combinations of exercise activities can be done, but it should be progressive in nature, and the plan will need to cover all functions that will respond in a time of crisis.

Multi-Year Exercise Program Strategic Plan

Jurisdiction: _____

Purpose: This matrix can be used as a tool to develop and implement a progressive exercise program**.**

Procedure: Conduct an assessment of current functional readiness and determine which exercise activity(ies) would be most beneficial for each function based on current capabilities.

Summarize your assessment on the matrix below in the column for the current fiscal year.

Projecting activities for each function progressively allows exercising with the intent to reach full capability testing, at the highest level, within a multi-year time frame.

Each activity will again be designated on the matrix in the following manner:

Orientation = O Drill = D Tabletop = TT Functional = FL Full-scale = FS

Function	FY2004	FY2005	FY2006	FY2007	FY2008
Direction and Control					
Warning					
Communications					
Damage Assessment					
Law Enforcement					
Public Information					
Fire Service					
Public Works					
Emergency Medical					
Public Health					
Human Services					
Radiological					

Summary of Projected Exercise Activities (Note: number of activities in that year.)

Fiscal Year	Orientations	Drills	Tabletops	Functional	Full-scale
2004					
2005					
2006					
2007					
2008					

For jurisdictions scheduling large exercises yearly, please indicate other exercise activities (orientations, drills, tabletops, or functional) leading up to the larger exercise.

Appendix C

Glossary of Terms

Actual Event	A “real life” occurrence of a natural or man-made hazard that requires the mobilization of emergency response personnel.
After Action Report	The formal written documentation analyzing the performance of assigned personnel after an exercise or actual event.
Agenda	The format for participants to follow that lists the topic areas, time allowed, and presenters for an activity.
Annual Work Agreement	The document prepared by the local emergency management coordinator and Emergency Management Division district coordinator, that describes the negotiated work items/activities to be completed by the local program.
Checklist	A written list of items intended to aid memory that describes actions needing to be taken by an assigned individual or organization.
Chief Elected Official	The official of the community who is charged with authority to implement and administer laws, ordinances, and regulations for the community. He or she may be a chairperson of a county board, mayor of a town or city, or supervisor of a township.
Community	A political entity which has the authority to adopt and enforce laws for the area under its jurisdiction. In most cases, the community is an incorporated town, city, or village.
Contingency Messages	Master scenario of events list (MSEL) items that are associated with exercise objectives and a key event necessary to achieve that objective; they are prepared in case players do not take the anticipated action that is to be driven by that key event in a timely manner.
Control Cell	A location away from exercise participants that provides a facility for control and management of an exercise.
Controller	A person whose role is to ensure the objectives are sufficiently exercised, the level of activity keeps players occupied and challenged, and the pace (flow) of the exercise proceeds according to the scenario.
Controller Inject	The introduction of events, data, and information into exercises by a controller to drive the demonstration of the objectives.
Damage Assessment	The process used to appraise or determine the number of injuries and deaths, damage to public and private property, and the status of key facilities and services such as hospitals, health care facilities, fire and police facilities, communication networks, water and sanitation systems, utilities, and transportation networks, all resulting from a man-made or natural disaster.
Disaster	An occurrence of a natural catastrophe, technological accident, or human caused event that has resulted in severe property damage, deaths, and/or multiple injuries. Normally, it is widespread and beyond local government’s capability, and requires state, and potentially federal involvement.

Drill	An event involving organizational responses to a simulated accident or emergency exercise activity to develop, test, and monitor specialized emergency skills that constitute one or more components (functions) of an emergency operations plan and procedure.
EMD District Coordinator	A Michigan State Police trooper assigned by EMD to a geographic district of Michigan to coordinate with local emergency management programs.
Emergency	Any occasion or instance where a natural or man-made hazard warrants action by local response agencies to save lives, property, and the environment.
Emergency Management Division (EMD)	The division of the Michigan State Police whose purpose is to coordinate emergency management activities of county, municipal, state, and federal governments.
Emergency Operations Center (EOC)	The protected site from which state and local government officials coordinate, monitor, and direct emergency response and recovery activities during and after an emergency/disaster.
Emergency Operations Plan	A document that describes how people and property will be protected during a threat or actual emergency/disaster, detailing who is responsible for carrying out specific actions. It identifies the personnel, equipment, facilities, supplies, and other resources available for use in the emergency/disaster, and outlines how all the actions will be coordinated.
Emergency Program Manager/Coordinator	An assigned or appointed member of local government who is responsible for coordinating the plans and operations of the various components of the emergency management system, including governmental response units, volunteer agencies, and private resources.
Evacuation	The organized, phased, and supervised dispersal of people from dangerous or potentially dangerous areas.
Evaluation	The process of observing and recording exercise activities, comparing performance of participants against exercise objectives, and noting strengths and deficiencies.
Evaluation Methodology	The procedures and strategy used to evaluate an exercise. This would include the structure of the evaluation team, objectives, and the evaluation packet.
Evaluation Team	A group of individuals formed to complete evaluation tasks for an exercise.
Evaluators Critique	A meeting of evaluators to collect and analyze exercise performance in preparation for completing an evaluation report.
Exercise	A simulated emergency, in which members of various agencies perform the tasks that would be expected of them in a real emergency.
Exercise Directive	A letter or memo from the chief elected official in a jurisdiction that is sent to agencies invited to play in an exercise. The directive is one means of gaining official support from those who should participate in the exercise.
Exercise Documentation	All information that is formulated and collected, from the initial design planning of the exercise to the final after action report.

Exercise Enhancements	A list of resources that can be gathered to add “realism” to the exercise. This would include communications equipment, visuals, charts, computers, video, props, special equipment, and people.
Exercise Phase	Refers to before, during, and after the exercise, as exercise tasks are organized.
Exercise Reporting Form	A document that is used to record specific information on drills, and tabletop, functional, and full-scale exercises.
Exercise Scope	Determining realistic limits on the personnel, agencies, and resources required to conduct an exercise activity, based on the needs assessment. This would include hazard, geographical area, functions, agencies and personnel, and exercise type.
Expected Actions	The actions or decisions that are anticipated of the players in order to demonstrate competence based on the objectives of the exercise.
Follow-up Activity	After the evaluation of an exercise has been completed, certain items or issues will remain to be addressed. Normally, persons or committees will be assigned this task.
Free-play	A spontaneous message injected by a simulator or controller, prompted by the performance or non-performance of the players.
Full-scale Exercise	An activity intended to evaluate the capability of emergency management systems over a period of time by testing the major portions of an emergency operations plan and organizations, under a stressful environment. (This will include the mobilization of personnel, equipment, and resources, their actual movement, and testing the coordination and response capability.)
Function	Actions or operations required in emergency response or recovery, such as alert notification, communications, and coordination/control.
Functional Exercise	Activities designed to test or evaluate the capability of individual or multiple emergency functions, with time constraints, and normally in the emergency operations center. This activity, based on a scenario event, provides practice for players without movement of personnel or equipment.
Gantt Chart	A chart displaying the time and task schedule for exercise development.
Goal of an Exercise	The purpose of conducting an exercise activity and what is to be accomplished.
Hazard	Any dangerous event or circumstance that has the potential to lead to an emergency or disaster.
Initial Planning Conference (IPC)	An activity to bring together the stakeholders and plan the upcoming year(s) of exercises.
Incident Management System	A standardized organizational structure used to command, control, and coordinate the use of resources and personnel that have responded to the scene of an emergency or disaster.
Job Aids	A mechanism to provide short-term training for procedures, processes, and functions. This could include checklists, procedure lists, decision guides, forms

	and worksheets, and reference sources.
Joint Public Information Center	A central point of contact for all news media near the scene of a large-scale disaster or exercise.
Major Events	A list of likely problems resulting from a disaster scenario which are expected events (based on case studies or operational plans), as it coincides with the exercise objectives.
Master Scenario of Events	A sequentially linked list of events or requirements injected during an exercise to prompt player action to implement policies, procedures, and systems to achieve exercise objectives and support key events.
Master Sequence of Events	As a part of the exercise design package, this list provides all the events that are likely to happen. This will include major events, with minor events for each major event.
Message Controller	A person assigned to document the flow of messages into and out of the exercise playing area and designate their proper destination.
Messages	Verbal or written stimulus inserted in the exercise to achieve specific objectives.
Minor (Detailed) Events	Problems within major events that are specific in nature and normally require an operational response.
Mitigation	An activity or action that can eliminate or lessen the impact of hazards before or after an emergency or disaster.
Multi-Year Progressive Exercise Plan	A document that describes exercise activities over several years, based on the needs of a community.
Mutual Aid Agreement (Pact)	A legal agreement between two or more local jurisdictions to aid each other in times of emergencies or disasters. This document, signed by the heads of each government, typically covers free access across boundaries, the provision of resources and services, the extent to which the resources will be provided, and other public safety concerns.
Needs Assessment	A process of defining a community's inventory of problems or needs.
Objective	A description of the performance expected from participants in order to demonstrate competence.
Orientation	An exercise activity that involves bringing together those with a role or interest in a plan, problem, or procedure. Participants are provided information through the use of lecture, film, slides or other visuals, or panel discussion. It is considered to be the foundation for emergency management exercises and begins the progressive exercise program.
Player	An exercise participant who is responsible for taking whatever actions are necessary to respond to a simulated emergency.
Player Critique	An open meeting or format for receiving feedback from players of an exercise, and discussing player performance and exercise experience.
Points of Review	Specific activities that must occur to achieve an exercise objective. They are highlighted on an evaluation form to assist evaluators.

Preparedness	The planning activities that demonstrate how to respond in case an emergency or disaster occurs, by working to increase resources, training of personnel, and exercising.
Purpose Statement	A broad statement of the exercise goal used to communicate why the exercise is being conducted.
Recovery	Attempting to bring a community as close to normal as possible, during and immediately following an emergency or disaster. Short-term recovery involves re-instituting immediate needs of victims (food, power, sanitation, water, communications, shelter, etc.). Long-term recovery is activities or projects that will take considerable time to resolve (relocation of flood prone residents, rebuilding of a public facility, counseling programs, etc.).
Response	Activities that occur during and immediately following an emergency or disaster that are designed to provide emergency assistance to the victims and reduce the likelihood of secondary damage.
Rules of Play	Exercise instructions for players that provide an orientation covering the extent of play, administrative and logistical matters, safety procedures, and other concerns of the exercise.
Scenario	A sequential account of a simulated emergency or disaster providing the catalyst for the exercise. It introduces situations that solicit responses and allows demonstration of exercise objectives.
Scenario Narrative	The part of the scenario that sets the scene for an exercise to begin, consisting of a hypothetical emergency or disaster situation, creating the need for emergency response.
Simulation Cell	Exercise control personnel who portray roles for agencies or personnel outside the exercise environment.
Simulation	Creating the perception of a situation, event, or environment which will evoke responses similar to those of a real emergency.
Standard Operating Procedures	A set of instructions constituting a directive, covering those features of operations which lend themselves to a definite step-by-step process of accomplishment.
Tabletop Exercise	An activity in which key staff or other emergency management personnel are gathered together informally and without time constraints, usually in a conference room setting, to discuss various simulated emergency situations. The focus is on examination and discussion of problems with resolution.
Time-jump	An artificial leap of exercise events compiled to provide a frame of reference for exercise planning or evaluation of exercise performance with time sensitive issues.
Work Plan	A brief narrative describing what will be accomplished through a period of time.

Appendix D

List of Acronyms

AAR	After Action Report
ARC	American Red Cross
CAP	Corrective Action Program
CBRNE	Chemical, Biological, Radiological, Nuclear, & Explosive
CEO	Chief Elected Official
CEP	Comprehensive Exercise Program
CP	Command Post
DOD	Department of Defense
ECC	Emergency Command Center
EER	Exercise Evaluation Report
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
EMC	Emergency Management Coordinator
EMD	Emergency Management Division (Michigan State Police)
EMI	Emergency Management Institute
EPM	Emergency Program Manager
ETO	Exercise Training Officer
FE	Functional Exercise
FEMA	Federal Emergency Management Agency
FRP	Federal Response Plan
FSE	Full-Scale Exercise
FY	Fiscal Year
HAZMAT	Hazardous Material
IC	Incident Commander
ICP	Incident Command Post
ICS	Incident Command System
IPC	Initial Planning Conference
JPIC	Joint Public Information Center
LEIN	Law Enforcement Information Network
LEPC	Local Emergency Planning Committee
MCC	Military Command Center
MOU	Memorandum of Understanding
MSEL	Master Scenario of Events List or Master Sequence of Events List
NCCEM	National Coordinating Council on Emergency Management
NFA	National Fire Academy
NFIP	National Flood Insurance Program
NOAA	National Oceanic and Atmospheric Administration
NRC	National Regulatory Commission
NRT	National Response Team
NUREG	Nuclear Regulation
NWS	National Weather Service
OSHA	Occupational Safety and Health Administration
PAZ	Protective Action Zone
PDA	Preliminary Damage Assessment
PIO	Public Information Officer
POR	Points of Review
REX	Readiness Exercise
PPA/CA	Performance Partnership Agreement/Cooperative Agreement
SARA	Superfund Amendments and Reauthorization Act
SEMA	State Emergency Management Agency
SLG	State and Local Guide

SMART	Simple, Measurable, Achievable, Results-oriented, Task-oriented
SOG	Standard Operation Guidelines
SOP	Standard Operating Procedure
STO	State Training Officer
TT	Tabletop Exercise

Appendix E

Acknowledgments

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Disaster Exercise Manual, EMD Publication 702, EMD, March 1989

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